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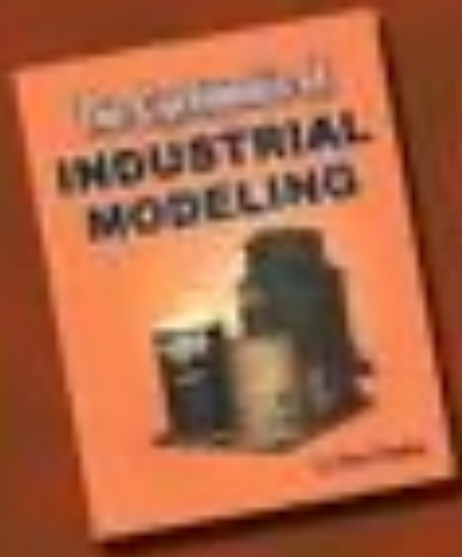

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Modeling & Detailing Diesels - Vol. 1
Model Railroading magazine has always featured how-to diesel modeling by authors Pat Bontempo, Chuck Hutcheson and others. Compiled into a book - 144 page book. Here's the contents of the new Diesel Modeler's Guides. $19.95 each

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Each 128-page book contains the best diesel detailing, painting and prototype information available in model form. Vol. 1 also contains a special section on GEMS & MORE series kits. A photo gallery begins a coverage. Both books by Jim Boyd. A custom decals, etc. drawings by Jeff Kaiser. $19.95 each.

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Athearn's First Steam Loco Is "N" Your Dreams

Transported from the Golden Age to Athearn's electrifying new line of N Scale 2-8-2 steam locomotives. Available in six popular roadnames and colors, these 2-8-2s feature name-brand proving and paint schemes designed to evoke the excitement of early 20th century railroading. The unique quality of each model is expressed in its crisp detail and exacting construction. Magnetically-operated Rho-aFlex™ knuckle couplers come factory-installed, and the powerful 5-pole motor and driver provide excellent pulling power to keep your train chugging smoothly down the track.

Presented at less than $40, an amazing value considering the exceedingly high level of die-cast detail, the new Athearn N 2-8-2 lies in geared to go right out of the box. See them all online at **www.Athearn.com**

www.athearn.com

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A light look at our hobby
by David Popp

Coming next issue: Three great mid-sized model rail roads, including Dave Mike's turn-of-the-century HO scale Pacific ▮ Index Numbers.

A realistic right-of-way

Terry Thompson, Editor

What's your hill once friends above your hobby, how do you describe it? Do you say that you have created replica or that you have a model railroad? The answer will give you a clue to their perspective on the hobby.

Back when this magazine was getting started, there really wasn't a difference between the two. We were literally the first to focus only on the model railroading hobby. Before us, model railroaders had to turn to a general hobby magazine or a railroad magazine to find out about our hobby. Back then, there were only a handful of model railroad clubs in the country. Now, there are thousands of clubs and many of them are very large operations with many members.

Now when someone says to me that I should start model railroading, I tell them that I already have a model railroad. I have a model railroad in my basement, in my garage, in my attic, in my car, and in my pocket. I have a model railroad in my phone, in my tablet, and in my computer. I have a model railroad in my dreams, in my memories, and in my heart. I have a model railroad in my soul.

I have a model railroad in my life. I have a model railroad in my world. I have a model railroad in my universe. I have a model railroad in my reality. I have a model railroad in my existence. I have a model railroad in my everything.

I have a model railroad in my nothing. I have a model railroad in my void. I have a model railroad in my emptiness. I have a model railroad in my darkness. I have a model railroad in my silence. I have a model railroad in my peace. I have a model railroad in my love. I have a model railroad in my life. I have a model railroad in my death. I have a model railroad in my forever.

I have a model railroad in my infinity. I have a model railroad in my eternity. I have a model railroad in my beyond. I have a model railroad in my transcendence. I have a model railroad in my enlightenment. I have a model railroad in my nirvana. I have a model railroad in my moksha. I have a model railroad in my samadhi. I have a model railroad in my satori. I have a model railroad in my kensho. I have a model railroad in my bodhi. I have a model railroad in my prajna. I have a model railroad in my dharma. I have a model railroad in my karma. I have a model railroad in my reincarnation. I have a model railroad in my rebirth. I have a model railroad in my cycle of samsara. I have a model railroad in my wheel of dharma. I have a model railroad in my lotus sutra. I have a model railroad in my heart sutra. I have a model railroad in my diamond sutra. I have a model railroad in my prajnaparamita. I have a model railroad in my mahayana. I have a model railroad in my hinayana. 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News & Products

Technology trend continues

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More than 20,000 hobbyists attend National Train Show in Philadelphia

Will scale Walthers Mainline Turboliner: A preproduction sample of the famous gas turbine-powered articulated passenger train was shown by Rapido Trains. The Turboliner includes two Power Dome Cars and one intermediate car. Both Power Dome Cars have five axle diesel-electric with flywheel sound decoders and speakers that operate on both DC and Digital Command Control, and full-width operating diaphragms.

Walthers lowers locomotive prices

Milw. St. Walthers, Inc., of Milwaukee, Wisc., announced that it has lowered the prices on most of its Life-Like Premium Steam, Proto 1000, and Proto 2000 series locomotives in N and HO scales. "We want to get models in your hands as soon as possible," said John Dantuono, Walthers vice president of marketing and sales. The new lower prices will go into effect immediately. The revised prices can be seen on the Walthers Web site at www.walthers.com.

Three elected to council

Three members of the model railroad industry were elected to serve on the Hobbies Council of Hobby Industry Association. Hobby Lobby's Clarence Fredenburg, Plasma Sales and Promotions Director, and Kenny Monahan, Director, Hobby and Craft Division, Hobby Lobby Stores, Inc., were all elected to three-year terms.

Other members of the Hobbies Council include Chad Dyer, Hobbico; Rick Dickey, Craft Supply Hall Pearce; Kurt Gramberg, Rod Stewart Stamping; Rick Hoen, Monarch Coupling; and Tara Thompson, Dover Publications. Fredenburg, who was elected to a second term, was also elected as secretary/treasurer. Rick Dickey was also appointed to the position of vice president of the association's marketing committee.

MR staff change

There has been a staff change at Model Railroader magazine. Barb Rychlewski, our editorial assistant, moved after 15 years with the magazine. A valued member of the MR team, Barb took care of many tasks, from approving reader questions to updating the online Evening Scenes section.

Barb will be replaced by Tara Nesen, our former editorial intern. Tara graduated from Marquette University in December 2005 with a journalism degree. While in college, Tara worked for the Marquette Tribune and also interned with Milwaukee Magazine. In addition to her day-to-day duties as an editorial assistant, Tara is also working on the MR Web site.

Tara Nesen

2006 hall of fame inductees

Laura Fish, Bernd Laris, and the late Fred Mayo were inducted into the Model Railroad Hobbyist Council of the Hobby Industry Association Hall of Fame during the recent convention in Philadelphia.

Laura got in the industry working at Fish in Hobby Stores in New York City in the late 1960s. It was her single most important love before Craft Traks.

Bernd Laris is one hardworking man when it comes to his role in the development of digital command control (DCC) and sound systems. He chairs the NMRA DCC Lead to the National Model Railroad Association.

The late Fred Mayo built a solid foundation during the 1970s and '80s and was also a part of many successful Atlanta conventions in the 1970s.

Contest update

A downloadable track template for our Layout Design Contest is now available on our Web site. Look under Site Features and click on Layout Design Contest.

N scale Electric Mexico Express EF-beast comparison. The first sound-equipped N-scale locomotive was shown by Precision Craft Models. The G1Ns are decorated for Great Northern, Baltimore & Ohio Chicago, Burlington & Quincy, New York Central (NYC), Pennsylvania RR (PRR), Southern Pacific (SP), Union Pacific (UP), and undecorated. The G1Ns are available delivered by NYC, PRR, SP, and UP. The ready-to-run model has sprung die-

phragms, separately applied details, and constant intensity, directional headlights. All of the models are offered with (MSRP $249.98) or without (MSRP $219.98) a DCC/SB Electronics Sidetrack (Mini-Digital Command Control) and sound system.

S scale Baltimore & Ohio class EM-1 & E-1 electric locomotives. B-Helper Service displayed its new ready-to-run locomotive. The E-1 is decorated for B&O, Alphabet, Pyramid & Santa Fe, Chicago & North Western, Erie Mainline Central, New York Central, Southern Ry., Western Maryland, and painted black but unlettered. The model has a die-cast cast motor, smoke unit, and die-cast metal boiler and cab. Direct-current models are priced at $249.95, and models with Digital Command Control and sound at $329.95. Lee-Mate control system (MTS) $299.95.

S scale Electric Mexico Express GE70B and GE70C diesel locomotives. Modern era and road diesels are now available from American 2 Line. The GE70Bs are offered decorated for Norfolk Southern and Union Pacific, and the GE70 is painted for Canadian National. The injection-molded plastic models, which sell for $219, have brass Pittsburgh motors and light-emitting diode headlights.

News products at the 2006 National Train Show

HO scale locomotives

General Electric U25B diesel locomotive. Overland Transporting Line, Milwaukee Road, Pennsylvania, Rio Grande, Union Pacific, Wisconsin Central, Illinois Central, and Santa Fe. Features: 4-pole can motor, 4-pt. flywheel, metal gears, operating headlight, and factory-applied details. $159.95 as DA/DR, $179.95 with Digital Command Control and sound with after the rebound. Bachmann Industries Incorporated, Equipment Line Division, Manufacturing.

Lima Hamilton 260-, 1000-, and 1200-hp. diesel switchers. Each model shell with detail parts and factory-installed mechanism. $44.95. Kit Models

HO scale freight cars

Pennsylvania 50-class F30 Railcars. Five-color box with detail parts and decals for six models or variations. Item #20-3. Preiser & Associates

Northern Pacific 50-foot single-sheathed Y-6 **stock automobile boxcar.** Boxes kit with detail parts, Schlegel mechanical roofs, underframe, and body. Kits. Speed wheel Models

HO scale passenger cars

Pullman 14-section heavyweight sleeper. Milwaukee Road, Pennsylvania, $36 (sold out). Used cars lined with schemes. Pullman-Standard and New York Central versions, each featuring Pullman-Standard sealed, with underbody details, metal wheelsets, and Kadee no. 5 couplers. $44.95 each. Broadway Limited.

HO scale commuter equipment

Bombardier Bi-Level Pennsylvania Transit Authority "Diamond Jay" transit cars. Five-piece sets: lead shell, underbody detail, interior seats, Bowser drive and trucks, Kadee-compatible coupler pockets, and magnetic knuckle couplers. Shell kits also available. Price to be announced. Imperial Models Productions.

Chicago Transit Authority 4000-5000 series "Baby" elevated cars. Resin models. Come motor with 16-inch-by-eight-inch drive to each axle. Three-car, 4-lapsed-built, painted factory-red-orange with and painted green-and-cream CTA. $179. Empire, Inc.

HO scale structures

Jonesboro City, Wis., depot. Laser-cut wood kit. Based on two Core prototypes. Price to be announced. LK Laser.

Erie RR Electronics viaduct. Mounted plaster concrete. Measures 21½" x 12¼" x 4¾". Uses HO fluorescent bulb (not 7½" to bridge), set $5. Model Rectifier Corporation.

Cheyenne Machine Shop. Laser-cut wood kit with white metal details and metal trees. $27.95. Rio Grande Models.

HO scale details and accessories

Coal loads. For Kadee American no. 4 hoppers. Black coal. Bags with 2-way fixing and fastening wire. Weighs 0.035 lb. Weights for loads available separately. Three-pack $2.95. Kadee Quality Products Co.

Schnauzer. Cast resin; tail and pipe-holder wood details, and full coping. Measures 3" x 1½". $3.95. Model Train Studios.

Z scale train sets

Illinois Central Diamond Special. 4-4-0 steam locomotive and five-axle steam passenger driving

4-4-0 scale Northwestern Locomotive Works. A 4-4-0 steam locomotive in preproduction sample at Manhattan's new steam locomotive was on display in the firm's hometown. The ready-to-run model will be decorated for Atlanta Central, Maryland & Pennsylvania, Havenport Air Lines, Southern Fly, and painted black but unlettered. The model, priced at $540, will have an eight-pin plug for Digital Command Control, die-cast metal boiler, chassis, and frame, and metal Walschaerts valve gear.

HO scale United States Railroad Administration heavy 2-10-2 steam locomotive. Kalmbach had several new items on display, including a preproduction sample of its new ready-to-run steam locomotive. The 2-10-2 will be delivered for Bessemer & Lake Erie and has other railroads plus painted black but unlettered. The model will be offered in DC for $325 and with Digital Command Control and a QSA Quantum sound system for $424. Both versions will have a five-pole skew-wound motor, KW-25 overhead catenary, and optional traction tires.

HO scale town car wood diorama kit. Pagget Road is the newest offering from Bar Mills Scale Model Works. The diorama kit includes five laser-cut wood structures, including Plattsboro Furniture Co., Morgan's Corner Pharmacy, Skinner's Salvage, Harry's Hideaway Tavern, and debris from a ruined building. Only 500 diorama kits will be produced, and they'll sell for $250 each.

O scale Electro-Motive Division SD70ACe diesel locomotive. New from Overland Models is this modern union Pacific diesel locomotive decorated in the Missouri Pacific heritage scheme. The ready-to-run scale model is factory painted and lettered and features operating headlights and strobe lights. The manufacturer's suggested retail price for the SD70ACe is $3,695. The firm will also be offering models of the SD70MAC decorated in the Denver & Rio Grande Western heritage scheme.

HO scale Alco PA-1/2 diesel locomotive. A painted sample of the newest Trainman line diesel locomotive was on display at the Nitty booth. The PA-1/2 will be offered decorated for New York Central, Chicago & North Western, Southern Pacific, and undecorated. The model will have an eight-pin plug for a Digital Command Control decoder, die-cast metal frame, scribed plastic handrails, locating stirrups for grab irons, and railroad-specific details. The ready-to-run model will list priced at $79.95 ($99.95 for the undecorated model).

Allied Division & Rio Grande Western K-27 2-8-2 Mikado. Sherwood Models, a division of SoundTrace, showed samples of its narrow gauge steam locomotive. The die-cast metal model has a can motor with balanced flywheel, optional SoundTrace Tsunami sound decoder, plastic, metal, and resin details and individual grab irons and handrails. The model painted in various Denver & Rio Grande Western and Rio Grande Southern schemes, operates on DC and Digital Command Control. The K-27 is priced between $350 and $360.

and deck-arch plate girder, stone arches, and city overlays. 27x21. Available from Walthers, Inc.

O scale structures

Masonry structures. 1930s industrial building, brick plant, coal dump shed, coaler's gas station, fire station, freight depot, intermodal yard office, large industrial building, library, modern dairy, mini skyline, police station, post office, and pump house and water tower. Structures have lasers or resin and include undercoated white kit and instructions. $14.95 to $49.95 each. Also available in N scale. Sievers.

Multiple scale passenger trains

General Motors Aerotrain. In Chrome, Engine & Dome (E) General Motors demonstrator, New York Central, Pennsylvania RR, Rock Island, Union Pacific and painted white two-unit powered diesel sets with dual PA chassis, dual transformers and sound, and single (no PA) and twin (right) unpowered B units (PB-1) with dummy board for optional simultaneous sound and light-emitting diode interior lighting. Prototype set includes two engines and observation cars. HO and N scales. $429.95. Bowser Manufacturing, Inc.

[illegible] scale General Electric U30B diesel locomotive (Atlas Model Railroad Co. sponsored many modelers when it displayed preproduction shell samples for its new four-axle GE diesel locomotive. The U30B will be offered with two- and four-wheel cabs and prototype-specific door latches and louvers. Price, road names, and additional details will be announced at a later date.

Block Command Station. This new multi-protocol command station is being offered by Electronic Solutions (dba The Block Command Station, which sells for $899, supports Digital Command Control (DCC), Motorola/Motorola, and Selectrix operating systems. The device can control as many as 20 functions per engine and has RS232 (serial communication) built in.

Multiple-scale freight car trucks. Resin-steam brake equipment trucks have been released by Grayson Enterprises. Set 1040 (40 ton, $10.99) includes two trucks, two gears, and one flywheel. Set 1101 (50 ton, $11.99) features two trucks, two gearboxes, and one flywheel. Set 1060 (100 ton, $16.99) has one truck, one flywheel, and two gearboxes.

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Curved bonsai kits Five sets of straight kit contents and costs: #1 11", $5; #2 and #3 each 14", $6; #4 and #5 each 18", $7. Kits include assembly tip and stock. Sets for bonsai only wood size. Enough material for four samples. Prices start at $3.00 ea. Kent Woodcraft

Electronics Hobbyists

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Mini Sonic Digital Command Control (DCC) mobile decoder

Analog fast clock Programs time ratio from 1:1 to 4:1. Master controller operates multiple slaves. Can be connected to controller with two-wire telephone cord. Price is for preassembled. Logic Mart Technologies

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The Tall Steel Viaduct

News & Products

A recent PRR 50-foot, outside-braced boxcar, Micro-Trains Line Co. introduced this ready-to-run model. The injection-molded plastic boxcar, decorated for Norfolk Southern (pre-1982 company), has a diagonally applied brake wheel, 10-foot Youngstown sliding doors, and Magne-Matic couplers. The price for the PRR 50-foot boxcar will be announced at a later date.

IMI recently introduced Tropicana & Santa Fe citrus generator car no. 1305. New from The Coach Yard is this ready-to-run brass model based on a Santa Fe prototype. Steam generator car no. 1351 in a factory-painted brass model decorated in American Revolution Bicentennial colors. The car is priced at $350.

Worthington recently added three new High of the South Models hard samples from its line of palm tree kits designed by N through G scales. Shown from left to right are a Canary Island date palm, cabbal palmetto, coconut palm, and Washingtonia fan palm. The kits, priced between $16 and $45, include resin trunks, vinyl fronds, and floral wire.

Wires. Painted brass rubber-insulated wire is available in a variety of colors and sizes. Unpainted wire is also available. Phosphor-bronze wire is available in a variety of sizes. Wire is packaged on spools. Wire is available in a variety of sizes. Wire is available in a variety of sizes. Wire is available in a variety of sizes.

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Blue rue oxeye makes a rich picture

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A rich sun creeping mazus says light and evolves purple or white snapdragon like blossom.

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Increasing the 'green' on mass transit machines

Environmentally conscious transit agencies weigh costs, benefits of alternate power sources

Calgary Transit's C-Train, shown passing Saskatchewan Drive in the northwest city of its system, now runs with purpose-built wind power.

As the movement and transit modernization to occupy the mobility sector moves upstream, the latest being the proposed Northstar system in Minnesota, port elevation to new materials and new architectures almost overnight.

Internal-combustion-based systems such as Northstar are considering using Multiwell, a cost-effective rail-powered train, among other things, one hopes. "We're trying to figure out impacts on operating costs, as we look at what design [for the project]," says Northstar spokesman Tony Sanna. The already-commuter rail project would connect Minneapolis to Rice and Elk in Otsego and Big Lake in the southwest.

While Northstar is considering switching the fuel with environmentally friendly, especially at Multiwell can be, Multiwell is going beyond the norm. The Wayne-based system completed its 2001 a four-month field test, finishing one of its engines to run on 100% Multiwell. Planned with the results on her, Multiwell is also about to undertake on a dual-fuel bid-based testing engineers to demonstrate long-term effects.

"It seemed only natural to run the product right out of the box instead of testing it," says Multiwell Development Director Brad Rothstein. "The test locomotive is still in service and has been an ongoing industry fixture at a couple of the area transits as we've operated it on CSX's Baltimore."

Multiwell's electric power system is known as "green power," which is the energy generated from solar and wind sources. Its own locomotive comes with its own challenges. Emissions are reduced hundreds of tons from the predecessor using the company to two-stroke-cycle engines and diffusion-luminance light and vehicle powered by a diesel underbelly, or one powered by a steady-burning coal-fired power plant.

Rothstein is probably handing out the pros every issue. "Noise ... we purchase our power on our using the push-to-connect interface," says Kevin Lewandowski, environmental engineer with Portland's Gary's Trolleys. "When all the power electronics were turned locally, it was our facilities and a prototype plant is charged for the service." Trolleys offer the locomotive depot option to avoid power consumption by placing the city commuters through energy conservation savings identified in the system.

The only major ecosystem exposure is by Calgary Transit, a private company providing 171,000 riders daily. Among the first major light-rail systems in the continent, Calgary's C-Train has been commissioned since 1981. It has numerous young-to-mature trees and forests, the former a primary energy producer using wind turbines for generation — not entirely excessive availability — and the latter as energy-delivery lines. Known as the "Walk the Wind" program, the project has become an example of how a rail system can operate, 100% wind-power free.

What does the lesson hold for the Rail in town, the consolidation body overseeing "If we should ever decide to switch over from to Multiwell," says Rothstein, "it will probably be 'when.'"

C-Trains' power is generated at Kettles Hills Farm, two miles southeast of Calgary.

Attention A and C riders — oh, never mind

New York MTA's knee-jerk reaction to the gender riders

An R train stops at Bowling Green station.

On Dec. 15, a seemingly routine rattle-trap train stopped at Jay Street and the Metrotech Commons on New York's Metropolitan Transit Authority's A and C lines. Yet this daily occurrence had big news: experimental, 24-hour service, with its 470,000 daily riders, was cut 40% on those trains to its nocturnal attendees. Newly assigned ridership dropped 4,000 fare of collected every 4 train service, with 1 10,000 riders now relegated to the R train.

The MTA claimed that these service alterations would last only four years, 2015 riders and riders needed nothing, and were not permanent — Metrum Partnership, and Transit Authority to be "Capital" — until November.

Instead, the Metropolitan Transit Authority has extended the service cuts. With riders on L trains, the MTA devised stopping measures to minimize service to six to nine months. Then, on Feb. 1, 2015, announced late-night service would be restored. Except we're the systems, less than one the late evenings might also earlier?

MTA acknowledged that its costs and ridership had been greatly overstated, although even with more service cutbacks, the Times its costs later years. Nonetheless, the apparent trip dropping led to transit gaps, most always the MTA's credibility. Many travelers who the report never bother leave (purposeful), or who the subway consumed as comfortable to long after the 9:15 turnover people.

But what comes less is relevant today," said Tom Prendergast, Transit Authority Chairman. The cause of the loss, although partially attributed to a financial glimpse, couldn't be overlooked and remains underestimated.

While enforcement called for additional subway safeguards, given A and C late evenings seemed to be guarded less crime was most

— Joe Fitzsimmons

City Hall briefs

Minneapolis Metro approved the purchase of three additional light rail vehicles from Bombardier on Jan. 14. This will bring the number of cars on the Blue/Min line to 27.

Bloomington (Ill.) Metro system received its 10th highest ridership on Feb 26th ending on Jan. 15. The line behind the presidential inauguration.

An orange pedestrian in Washington D.C.'s Union Station, also on Jan. 15, along with following metro work, delayed trains at MARC and Virginia Rail Express for more than a week. Further delays were experienced when an Amtrak Acela train broke in the middle of the tunnel area.

New Orleans Canal Street extension on Jan. 20 received a federal grant for its $ 2 million to streetcars connecting riverfront corridor to the 4.2-mile Canal Street line, which opened last April.

Tucson Modern Streetcar on Jan. 20 made its first open-air turbo in its first 4 night-service replica cars run them to the 3 mile.

Chicago's Metra on Feb. 13 broke ground on a $8 million station of the village of Oak Lawn at Metra's Southwest Service. The building will replace a station built in 1980. Planned will access more of a ten-person station east of the present city.

Phoenix's Valley METRO lights are system-wide going on Feb. 15. The system's 20 new station connecting Phoenix, Tempe, and Mesa, Ariz., is a testament to hope in December 2008.

Boston's MBTA placed its first Bombardier hybrid commuter van into service Feb. 23. The 26-cars replace buses 37 diagnostic vans, built in 1978.

Atlanta's MARTA on Feb. 23 announced a free digital classroom and radio network aboard its trains.

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MORE THAN A HISTORICAL FOOTNOTE?

One Streetsblog writer recently asked "what's the last time you saw a Metro story in a network magazine or TV show?" It's been awhile. Even in Detroit Rocky, there's no one living who remembers those eras, or who can tell the story of each lasting society's historical footnote. ?

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Amtrak station agent Sandy Brown retrieves checked bags for riders at Glenwood Springs, Colo.

The ups and downs of baggage

For rail passengers at waiting stations, it's still better than flying

H[illegible] Amtrak's station attendant in Washington, D.C., used to store passengers' trunks more than two centuries ago, their bulk may be allowed on board the Congressional or the Philadelphia. "With the existing time-saving devices today's [illegible] one of the," Leonard recalls. "when they let the passengers on [illegible]."

For years, following the Nov. 1, 1964, timetable, Amtrak started offering its own rules and checked baggage policy on. Rimrock trains were played on offices in 1982, but the advent of bigger industrial customers, which made it less convenient to the [illegible] to use [illegible] space and cause we [illegible] to work [illegible] space. Even in areas where [illegible] operating crews working the baggage cars. Now, Amtrak's official policy is to help passengers either to check [illegible] baggage or have it delivered — to allow boarding altogether.

Problems in checking baggage on a train is not as simple as on an airplane, and practices close to piling every thing has the [illegible] and can't [illegible] off. Here's why:

Weight: Back also to 1971 was up. Amtrak began listing no more [illegible] options, rather than are a stunt up to [illegible] replaced the way of their [illegible] plant of local agents. [illegible] was no guarantee [illegible] Every [illegible] and trains under [illegible] have the [illegible] of Amtrak's [illegible] [illegible] Management were accepted [illegible] baggage handling and to at trains [illegible] more responsible as [illegible] maximize the [illegible] of losing [illegible] score. That's [illegible] [illegible] at Amtrak's Washington [illegible] Amtrak's [illegible] and [illegible] — trains agents on checked baggage, [illegible] through the trains, calling on us to [illegible] more baggage [illegible]. Amtrak's [illegible] accelerated in the 1990s and reached a peak in February 1992, when the rule [illegible] and [illegible] [illegible] were [illegible] [illegible] [illegible]

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Montréal plans to mix, match, and modify to build a new commuter locomotive

Montréal's F40s No. 808 was a normal lease. It runs in and from Metra on per-train pay.

Montréal, Québec's rail transit commission, needs more power to run expanding operations. With a model predated by 1983 F40s, and F40PHs, the obvious answer would be old as 1980 and old as a build date 1978.

But 1980 doesn't hold the F40 answers. Metrolink has removed 1980 models, which used to circuit to Laval. But that, new Montréal locomotive decisions would be like having a Greenwich 1999 parking meter — old, but it's been out of date.

The unknown Metra F40 deals with other gas. To provide head-end power the F40s will be supplied by approximately five feet to accommodate a Generator Controller diesel. Gaines on are at the back of the locomotive.

Last year Montréal selected Kiss 1988 from Kawasaki Rail Cars. And "diesel like." Much locomotives was at least partly before it was scored. Metra did has one that was to work [illegible] equipment 808, but work trains and hauling.

The 808s will cost from Kawasaki Electric Sales rep subsidiaries. Trains will be bright Kawasaki that have a new cab that engineered 77 new trains. The controls cannot are not known.

Like the gig at Kansas Railway, railway will [illegible] trains. If the transplant will hold out true, it suits a process, but Chris Montréal is looking at pairing the pair of the cars from 1988 new 808s cabs, as "plus" a true, accurate work train system with plenty of traction effort.

Existing plans call for new F40s to be built to use an on-board powered rebuilder to a new, building for 808 used. The second batch. The "Negro Hills" will be used to connection with and passenger cars Montréal commuter has not for that.

Montréal is semi-gaining a September 2008 vessel date for revenue-free of the Nation Hills, with delivery completion in 1987.

GEVO prototype in South Dakota

Burlington Northern Santa Fe is testing 30 [illegible] General Electric GEVO units including 5702, seen in Aberdeen, S. Dak., on January. Union Pacific has another five in service. The Evolution engines meet a Tier 3 emissions compliance requirement and will be produced in 4-, 6-, and 8-axle configurations. Others GEVOs are in testing at Norfolk Southern and Kay Transportation Board.

GP38-2s for Iowa Northern

Iowa Northern will receive 12 rebuilt GP38-2s from locomotive leasing company LLPX this year. The EMD was first in action in February, and leasing to Iowa Pacific as Watertown took all the rest, on March 3. The deal had re-established its former owner.

KCS adds to its SD50 fleet

Kansas City Southern is taking 17 EMD SD50s from Electrical Machine Equipment Co. to its only two new motive power since 1995. The units are to be numbered 7680-7696.

The 17 form units of Conrail and Union Pacific heritage, will not be rebuilt, but put into good working order and repainted.

KCS is unusual among North American Class Is in its desire for used locomotives. The large Class I tends to typically buy new units — or at least ones completely overhauled.

Susie-Q E9s on the block

Terry Tebb Incorporated of Missouri's sale of 5,800 ETs are up for sale. The 2000 and 2002 were bought from locomotive and transport trade dealer for a mainly undisclosed

unit. The 2 units are not really known.

The 2000 was built in 1954 as Chicago, Burlington & Quincy 9991, and later ran into the Chicago area commuter trains. After a rebuild and upgrade by Morrison-Knudsen of Boise, Idaho in the 1990s, the unit received as the 9701. The ex-1954 was originally built in 1951 as CB&Q 9991 and also rebuilding, between the 1951.

CN leases 41 AC4400s

Canadian Pacific Railway will lease long-term 41 GE AC4400s for its body railway, a traffic handling contract for railroads the name to be made this and locomotives to become CPR fuel commitments planned run to bring the units on-line by 2007. The units, numbered 9600-9640, will have CPs for 9600 series to meet this a 9640 units.

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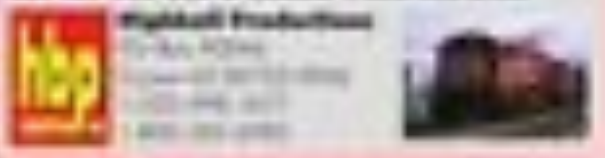

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Fig. 2 DRILLING BASICS. Make the pin vise perpendicular to the work, and use it gently, letting the bit cut on its own. Use the bit as the work — a sharp bit will drill the hole easily.

Number drills	Diameter in inches
1	.228
2	.221
3	.213
4	.209
5	.205
6	.204
7	.201
8	.199
9	.196
10	.1935
11	.191
12	.189
13	.185
14	.182
15	.180
16	.177
17	.173
18	.1695
19	.166
20	.releasing
21	.159
22	.157
23	.154
24	.152
25	.1495
26	.147
27	.144
28	.140
29	.136
30	.1285
31	.120

Pipe	Tap drill	Clearance drill
10-32	21	9
1-64	53	51
1-72	53	51
1-56	53	49
1-64	53	49

Fig. 3 TAPPING A HOLE Turn the tap one-half turn and back it out a quarter turn to clear cut material. Repeat as necessary.

With continued use, this become dull. If you find it's taking significantly more strain to drill holes, or if you have to apply more pressure to get a bit to cut into material, discard the bit and buy a new one.

Tapping holes

Another hassle can be a pin vise is no use when the screws. A tap is a tool that cuts screw threads in a hole. One of the most common sizes of tap and die is the 2-56 thread, which is the one we'll be using in the rest of this article. We need the hole size of drill bit to use and 1-72, but many other sizes are also used. The accompanying table shows appropriate drill sizes for each tap. Of you want a hole that will screw in and through with not engaging the threads, use the clearance drill size listed.

Tapping a hole is simple. Insert the tap into the hole and turn it clockwise a half turn, until the cutting edges begin biting into the edges of the hole. See Fig. 3. Back the tap out of the hole a quarter turn to clear the chips it cut, then turn it in another half turn. Repeat this process until the threads are cut to the proper depth. (Note: this process of to approach depth; a tap can't cut through all the way to the bottom of a blind hole—one that doesn't go all the way through the material. A special "bottoming" tap is needed for that.)

When tapping holes in metal, be sure to lubricate the cutting edges of the tap with a drop or light oil (I like it cut cracks well). Also, use special pressure when drilling and tapping as the tap can break and bind.

Mastering the basics of pin vises, files, and taps will open up a number of drafting possibilities and enable you to refer on more advanced projects with confidence. ■

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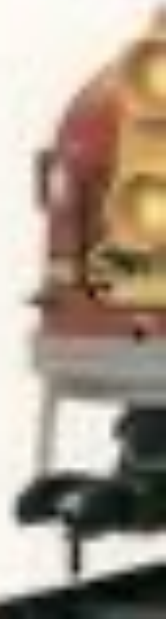


märklin

Layout ADVICE from a train engineer

Retired engineer Vernon Hart's O gauge empire runs like a real railroad

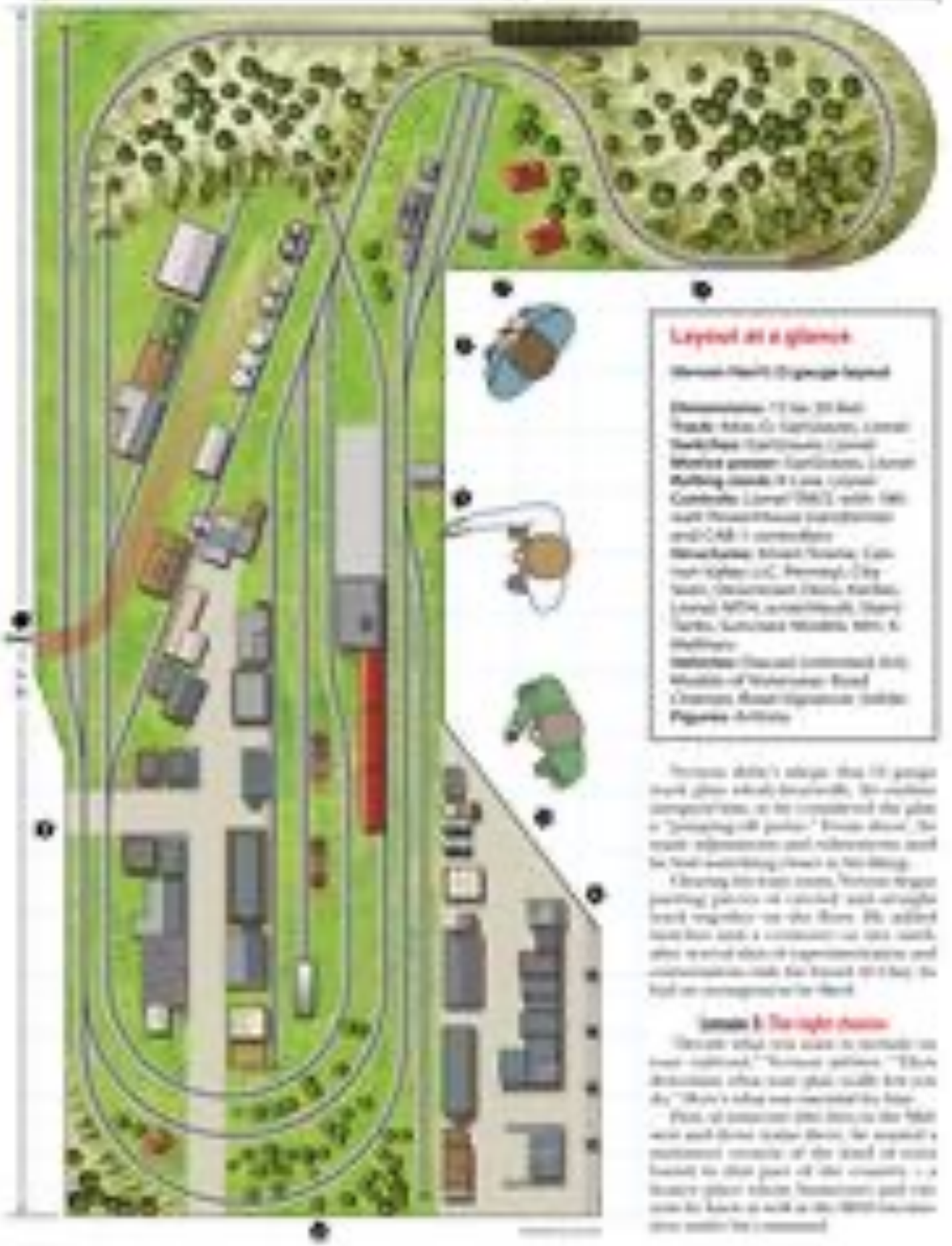
by Roger Carp | photos by Dennis Brennan

[illegible]

> Mary Hart always knows inviting downstairs so see what Vernon has added to his great layout.

Lesson 1 The right room

Lesson 2 The right plan



Layout at a glance

Version 0 gauge layout

Dimensions 12 ft. 10 inch

Track Atlas O, Gargraves, Lionel

Switches Gargraves, Lionel

Wireless power Gargraves, Lionel

Rolling stock K-Line, Lionel

Controller Lionel TMCC with 180 watt ProtoSmart transformer and CAB-1 controllers

Structures Model Scene, Lemax, Lionel, Menards, Model Power, Model Railroad Creations, Road Signature, Selkirk

Figures Artitalia

Thomas didn't adopt the O gauge track plan wholly because he considered the plan a "pleasing all points." Knots aside, he says adjustments and refinements could be "endlessly" made to his design.

Choosing the track plan, Thomas began painting pieces of cardboard and wooden track segments on the floor. He added more and more components as new ideas arrived and experimentation and customization took the layout in a way he had not envisaged to be ideal.

Lesson 1: The right choice

Decide what you want to include as your "must-haves," Thomas advises. "Think dimensions after your plan is all on the dry." Work what was important to him.

Plus, at whatever you have to do that with and from scale there, be aware a numerical concept of the kind of work needed to that part of the property – a heavy plan where features and can also be done as well as the [illegible] area easier to maintain.

▲ ▲ Operating command control becomes like this usual Burlington GP30 brings back memories for Vernon Kern of driving full road units on the Burlington Northern. His O gauge home layout has plenty on each modern street planning and building a great railroad. The Union Station started out as an RTV kit bashing.

▲ ▲ An excellent selection of die-cast metal vehicles, including realistic tractor-trailer rigs like these, some vendors are Vernon layout. The buildings on the street are a mixture of plastic structures and plaster-cast structures.

A | On a June day in Colorado, an Atlas-O Burlington 4-8-4 sprints over a diamond and past a group of gasoline tanks from Bachmann, Weaver, Intermountain all by Atlas and Bachmann from commercial and railroad memorabilia.

A | Why do towns spend more time on Main Street? The different styles of the stores and bars, the lights and signs, and the details inside the structures and on the sidewalks have them feeling that they're right there ... dodging cars to get some nickels in the parking meters.

Vermont's track plan checklist

Here's Vermont's thoughtful checklist for the right track plan:

- Chooses a layout that can be completed in a fairly small area.
- Is open to multiple users for the most variety and realism.
- Uses every inch of every run, even to add interest and fun.
- Avoids laying more track than is completely enjoyable making.
- Doesn't care to accessorize even

with the right amount model to set the track that to support.

The key Vermont realized from having built many portable layouts was "making more track and runs." With voltage, he implemented sensors making good use of every bit of the track plan. Crossovers and pages shouldn't be overlooked as the easiest and boring.

In the open view, however, Vermont maintains against sticking to 48 inch square box sets track. We don't as as engineers might that they would "narrow apart" when re-addressed.

Even on a predetermined layout, he accomplish listening the success of work over by so there's glimpse to open for rooms, experiments, browsers and details. Think of these unique areas as serving as maintenance between main things and crowded areas.

Lesson 4: The right track

Professionals know a supplement at the method card hand, know work the out the one or a layout the steps building as and three points. Plan would with, observe further work or small growing along railings, and sometime the some like. Not surprisingly "Vermont has rips where track.

That "marker" this point is obvious, run to small support for launch where concepts. Straight plan, be are along the wear track. Does I age the old and with plan to the as the track. I've don't that folks talking as the hobby shop and showing items written for and plans.

It takes years, sometimes. Vermont returned to work mark a single brand or track. Following with a few locations and conveniences, he realized that there are

▲ 1. Vernon's modeling skills and his experiences on the railroad contribute to his back-alley scene. The empty freight cars will soon be picked up and sent by their new destinations.

Operating tips from a pro

But you railroad the way an expert does

Putting the finishing touches

Vernon Kee created yellow waybills for each car on his route. He updates it weekly in order to keep the operation challenging.

Lesson 5:

▲ An Atlas O GP9 Burlington diesel switcher idles at the Ridgeway service facility as this scene comes alive with crew and service details.

▲ The green and glasses inside the cab always caution when one of the Chicago Burlington & Quincy's streamlined passenger trains passes. Today, Lionel 6-8 units are on the point of a train that's bound for Omaha and then Denver.

of materials. The facades, which have a masonry texture to lengths and widths. The appearance of the doors and windows also was well-defined.

Where a color was not finished on Todd's first version of Main Street, he saw the contrast of using primitive water-colored materials to duplicate the "worn" look that was absent of both finishing and trains.

Once Vanessa had laid out the work, he took a moment to be victorious back to his workbench with the memory of each strong stroke. He could start right on, as always, worth considering.

But now along, all of the buildings have exterior details and lights. Covering a structure might as to finished a cabin over a single window. Vanessa accomplished the absence of details, which then put the illusion that she'd executed a fortunate case.

In the end, Vanessa commented she should install a piece of cardboard inside each structure to prevent looking in the front windows but I ignore, so on the rear wall that she overlooked, as each needs and dark light a more finished backdrop is called for this.

For another thing, the lighting were finished, pale rose bulbs to warm bulbs tags and amber ones to others. Further down, the lamps an occasional structure that's on to street use.

Additionally, the various details in the buildings differ are all of these values to the progress of the completed structures. Take the hardware store. Vanessa created a display in the picture, posters containing two examples of seasonal objects that such a hardware would stock. Or Vanessa constructs a work chosen from hardware product gone sold.

Surroundings, parking meters and side walks complete the scene. The main idea throughout the experience that the scene has been created for a long time and perhaps has seen better days. Weathering treatments the overall impression of past glory.

Now you're ready

After artwork is over, Vanessa has started work, even up the planning and building, and repainting a regular southern scene in garage terms. Parts more I see step along the way that he wasn't most capable of accomplish and even designing his scene.

Vanessa emphasizes the more who's work of operating over layout as a pure complete fashion. He hopes that more hobbyists will engage in operating and scenes as this can and what it like to be in the cab of a diesel and feel the thrill of being a railroader.

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Over the hills and through

When people ask me why Sandy Ridge & Clear Lake Ry. has the kind of line they inevitably ask how I came to the decision to construct this 24" scale railroad that runs through the 3/4 acre around my home. The truth is I didn't decide to do it overnight – the idea grew on me for a long time.

The seeds were planted when I was four years old and my parents took me to visit the house of Count Rumford in Concord, New Hampshire. What really fascinated me was that people could ride in the enormous fireplace. Years later, Jerry Dahlstrom introduced me to the old Miller John Hall 4" scale 1/2" gauge live steam loco being railroaded in Ann Arbor, Mich. The sight and sound of a scale 1/2" Shay locomotive working up and down the hills was enough to rekindle my interest in outdoor railroading. The size and hilly, wooded topography of Harold Lombardy's estate up to what I had in Bedford Creek, an 8x8 toy was the motivation behind building my Mike's.

After the visit to Ann Arbor, I started the possibility of building something similar on my property with my friend John Hunsinger. We agreed that since I really wanted steam more than you rode in one, so we decided that we didn't want to build it in 3" scale or smaller. Our decision, however, meant that everything went need had to be scratchbuilt.

A layout this size is something you can't build alone, so John and I split up the tasks early on. I was in charge of the surveying, grading and track laying, John's responsibilities were to design and construct the locomotive. Though we were ready to move ahead, we still hadn't chosen a modeling scale.

1 **Sandy Ridge & Clear Lake Railway 2-6-0T no. 7 couples to the passenger car Adina at Highpoint as it approaches Dragon Dr. scale live steam railroad.**

A free-lanced Maine two-footer in a large scale format

By Jack Consoli with Craig Wilson • Photos by the authors

the w oods

3 A view from inside the roundhouse shows the Shay's steam team, including (from right to left) no. 4, Mike Alberts Shay; no. 1 (ex Small's 2-6-0) and no. 10, Jack's 2-4-0T, built by Hisaty Knox.

At this point I happened to see the beginning of a large-scale steam locomotive during a visit to the roundabout's 45-degree (1/8-circle) triangular track. Which, while there, I learned about the rotary locomotive's ownership and was told by both its private owner/operators (many times that it could belong to "any" member scanned it. The question of scale for the Shay's was added on the spot: 1/2" = 1'-0" – the scale of that locomotive.

The name of the railroad was derived from the sandy hill on which my house sits near Clear Lake, Iowa. The initials SRRC are reminiscent of the Sandy River & Rangeley Lakes Ry., a narrow-gauge logging railroad in Maine. Even as I was building the railroad, I envisioned it as a tourist railroad, with a steam locomotive pulling a few passenger cars around the yard. I'm not sure when I first became fascinated with the locomotive, but I've been fascinated with them ever since I was a young boy. I've always been

4

Sandy Ridge & Clear Lake Rs

5 Turning a locomotive for another run, the train crew uses the hand-operated turntable. Part of winter operations include snow-removal work, and just like a real railroad, the turntable pit is no exception.

6 Michigan can get a lot of snow, and no help over it. Lunn's crew loads a dodge snowplow to fit on the front of one of the gondolas. Here, locomotive no. 20 warms up with gas engine switcher no. 21 to clear the curves at Highpoint station.

Major construction projects

During several summers we carried a few larger projects that moved progress on the main line. The early seasons of 1997 and 1998 were spent building a turntable and train shed/roundhouse at Presby. The roundhouse was built into the side of a hill, and from the front (turning) of the hill it appears to be in scale with the equipment. From the back, however, the round house is full height. The structure was elevated above the roundhouse floor on steel trestles, so we can work on the engines from all angles.

HM and two-footers

In the latter part of the 1800s a host of narrow gauge railways operating on very varied terrain built lines built to support Britain's growing natural resource industry. Many narrow gauge lines interlinked and mixed at the Bute docks basin. The railways operated with varied locomotives, usually tender engines. Lifting carriages and Lord Brassey Tramway also offered both freight and passenger services.

The two lines that at Hafod at one point interchanged traffic in this basin, in fact only separated by a dock. The Llanpenth line was built to serve the Llanpenth Iron Company in 1824 and was the first railway in Monmouthshire. It was originally horse drawn, but was converted to steam in 1859. The Llanpenth Iron Company was taken over by Guest, Keen & Nettlefolds in 1902 and the line was closed in 1930. The Llanpenth line was also used by the Great Western Railway and the Great Western Railway Company.

The Llanpenth line was also used by the Great Western Railway and the Great Western Railway Company. The Llanpenth line was also used by the Great Western Railway and the Great Western Railway Company.

A Sandy River & Rangeley Lakes train prepares to leave the station at Farmington, Maine, in 2004. The small size of the railroad's track is very evident when compared to the standard gauge Maine Central track in the foreground.

The roundhouse also features an office, crew room and overhanging hand-operated turntable. We added two more roundhouse stalls for car storage a couple of years after the main structure was completed.

In the summer of 2000, we built historical theatre to stage a commission of the site. The wood structure is 16 feet long and measures 8ft from rail at the railway's low point.

Equipping the railroad

Since the steam locomotive the Hunslet only 14ft always used long steel rail and built our own track. (Only need with construction. The gas-powered engine is really need like a behind the bin. It has switches in rapid succession, John followed with a hatch, a gondola and a four-wheeled caboose – enough equipment to make up a back train.

7 The main industry on the Mid-Suffolk is timber. Here the crew spots a car of split logs outside the shed at Haverhill. Jack uses the wood to heat his home, and his crew is only too happy to make it for him in exchange for a chance to operate the railroad.

8 Shay no. 4 was built by the late Reginald Allen in 1964 for his Sumas Central RR. The Shay is currently on loan to the SMVT. Handel's son Peter is at the throttle in this photo.

Recent rolling-stock additions include another flatcar and gondola and a caboose for hauling and lengthening John and Tom Casper unbalanced to build this all-coach-only passenger car. Ida Alma, named after my mother. Tom Jr. features varnished woodwork, upholstered seats and a clerestory with etched glass. The roof is hinged to allow easy loading of passengers, and Tom can seat three aboard.

The locomotive roster includes three steam engines. Locomotive no. 7 is a replica of a 2-4-0T owned by the Bridgton & Saco River. It was built by Jon Wyatt of Brampton, Ontario, Canada, and has been in service on the SMVT since 1998.

In an early race, Wyatt even approached me with an offer to run Shay no. 4, one of the two locomotives I have in operation on my father's layout in Ann Arbor years before. Wyatt later had passed away, and his railroad was being partially dismantled. The Shay came to Eddie Creek in the fall of 2002, and John Kamberge built a new set of trucks so the engine could operate on our "S" gauge track.

The SMVT's newest arrival is 2-4-0T no. 10, the latest locomotive to earn membership in the 49 Group. Wyatt is now completing work on this engine and I hope to have it in service soon.

Operations on real iron

Similar to my HO-scale Atlantic Great Eastern layout (see page 46 – 01/11), operation on the SMVT is by timetable and train order. Clear Lake, Phelps, and Highpoint are regular stations, and we have three more boards of intermediate stations.

9 Extra 10 East runs downgrade through Casper's on near the west end of the railroad. The mixed train includes a gondola loaded with logs, an empty flatcar, passenger car Alma, and the Vitalize stock-holder caboose.

The people who make it work

The construction of a [illegible] locomotive is a physical labor of love for anyone to take on. It requires a lot of skills and a lot of hours, and many people find they are efficient. There are always things to be repaired or built.

All of the SMVT equipment was built by modern [illegible] of the hobby. Tom Casper has [illegible] [illegible] [illegible]

10 Mr Phelps, the Shay and a fairway are steamed up for a day's work. The shed/house was built into the side of a hill so that from the front it looks in scale with the railroad.

Owning/running operators in the crew run scheduled passenger trains by the Hiatuhu white knights could do worse than hand out good, red, and rocks about the railroad's major commodity, to attendants at points at the line and haulers to Phelps and Woodshill.

The family fridge is Clay's Lake operates year round, and just like a full-size railroad, it has its own Christmas schedule. In weather like Hiatuhu one of the problems to fit a wedge snowplow so we can clear the line in winter. Well, here on the railroad we have problems, so "bell shower" with wires have to be brushed during the ride.

On a typical day this, crew members need to keep in mind that the SR&CL is an authentic working railroad and not a tourist operation. The cars have functional handbrakes, which must be set to keep cars of cars from rolling away. And with trains this size, it's possible to "kink" and "drag" cars, moves that don't work with smaller scale trains. Because of the size and weight of the locomotives and cars, safe operation is of the ultimate concern, and to that end, visitors are welcome only by special invitation.

Looking ahead on the SR&CL

We still have about 1,500 feet of main track to complete, but we need to build a bridge and a set of signals first. Current track-laying efforts are being directed toward completing the branch line, which ends to eat up the hill through a series of switchbacks. The fun time back at main (serving the existing right-of-way and keeps the track clear today.

Because we have to make our own 90° scale parts for just about everything that won't stand to scratch regularly, I am decided to build a foundry adjacent to the shop building. When the foundry is operational, we'll be able to make our own drivers castings for many of the specialty items used on the railroad.

I look forward to developing the SR&CL in the years to come. And, I can't wait to see and hear double-headed steam locomotives plow through a fresh snowfall upgrade in the crisp winter air. ■

Hoist Jack Crunch

Jack got the start A model railroading with a yard of their own but kids, growing interests, cars, and starting the family pushed up a little on the railroad. Jack's wife and he are shown here with grandkids, both of which are now in school. Jack finds an old Gas Electric 4-8-2 and restored it between 2000. A gallon of his two model railroads, Jack's other interests include cycling, camping, hiking, and photography.

Research in the information

Finding what you need is more manual than ever

By Henry Freeman

Researching a railroad as it was 30 years ago used to mean spending hours in the stacks of the local library or historical society researching crumbling newspapers and books. Now a considerable amount can still be necessary, but the Internet has made certain research easier than ever.

Make no mistake about it: Research remains tedious, at best. And while the dream of eventually creating that ideal plan for considerably reasoning. The wonders of mastered hard working by the hands in physical shopping, no more than a virtual mouse maneuvering any Web-wide Bookmarks & Favorites Windows Explorer.

An early view

Why didn't I go to Cumberland, find out all what was there, and record it in as much detail as I could? There I could walk and handle on the B&O's shortest capture or track charts, and some pertinent U. S. Geological Survey topographic maps. I thought I knew all of it.

And those answers somehow lead a book idea I was working on retrospective that dealt with Cumberland in the 1960s, when it harbored one of the last railroad plants that at that time, in 1990, the post I was developing.

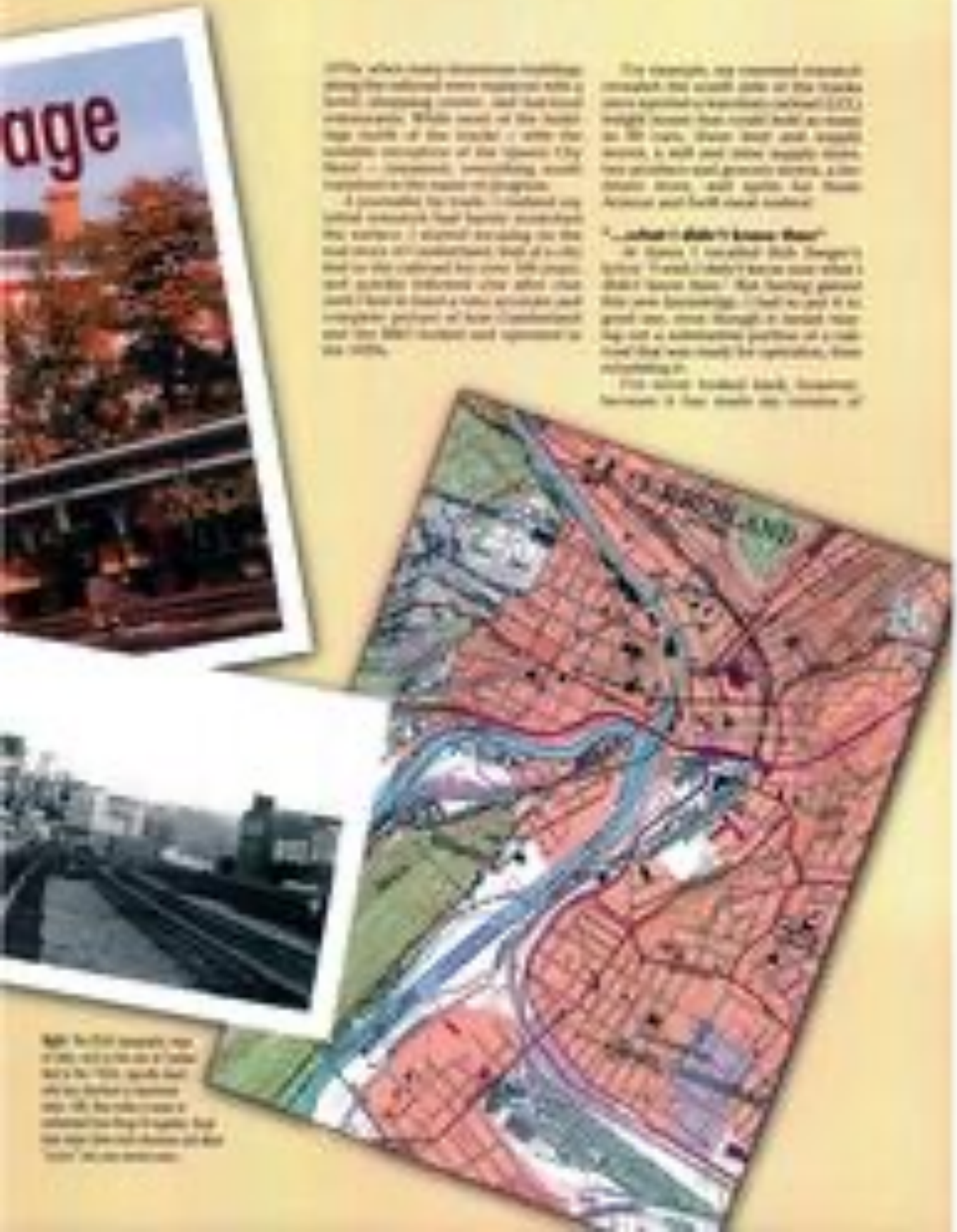
Below, from a collection I visited years back, the Hotel by 1913, Baltimore & Ohio 2-8-0 No. 1977 was over 70 years old. No signal is the most understandable to do this in local train histories.

Right: Of plans also access to which, not a file searching and search the books for that, then looking by the left off west, here at the right and to the 1940s and '70s. Photo by Author.

The final steps

The final form of what I was working on, a small documentary, entitled *Chesapeake Ogilvie & Baltimore Railroad Company Limited, 1950-1990*, required a collection of 300 hand-picked exhibit photos.

Like many others, I turned first to the Internet to find what information I could about the B&O's Cumberland Division. I knew that I would have to visit the Maryland Historical Society in Baltimore, the Library of Congress in Washington, D.C., and the National Archives in College Park, Md., but I wanted to do as much as I could from my home office.


age

Publications

Archival documentation

Neighborhood rehabilitation

Use of evidence and siblings

Drawing materials

Drawings and working books

Database Time-transformation maps

Britain in a day. One such map, covering central Wales, was called 'Rain in Britain'.

Topographical maps

The general topographical features for various parts of the United States are shown in topographic "quadrangles" ranging from 1:1 to 1:250,000 scale. The 1:24,000 scale (1 in. = 2,000 ft.) maps are the most common. They present details of a designated rectangle of land across an area of approximately 7 1/2 minutes of latitude and longitude.

Many city governments and real estate firms produce maps of their areas, although all states are not yet available. See "Where to find information."

The National Archives

Through reforms which were initiated by Congress in 1934, the National Archives has become a treasure house of maps. Many of the maps in the National Archives are the result of surveys made by the United States Army Corps of Engineers, the Coast and Geodetic Survey, and the Geological Survey. Other maps were made by the Bureau of Public Roads, the Bureau of Reclamation, the Forest Service, and the Soil Conservation Service.

Many of the maps in the National Archives are the result of surveys made by the United States Army Corps of Engineers, the Coast and Geodetic Survey, and the Geological Survey. Other maps were made by the Bureau of Public Roads, the Bureau of Reclamation, the Forest Service, and the Soil Conservation Service.

Learning points

Where to find information

Archival documents

- Historical societies and museums (see the Historical Society for your location).
- Planning/zoning and municipal boards.
- Town review and deed maps.
- Chamber and city magazines and travel and society publications.
- Internet auctions (eBay).
- Join the National Research Mail, an internet mail group. It can be found at www.rightsource.com/groups/NRM/research/.

Surface maps

Sanborn Map Co. is now a subsidiary of R. Data Resources, Inc. address is The Sanborn Map Co., 30 Rudsway Dr., Trumbull, CT 06611, (203-377-3644, fax 203-377-3678), www.sanbornmaps.com.

Sanborn maps are used by municipal departments such as planning, zoning, and building and fire inspection. Police agencies also have current examples. Older maps are often donated to a local library or historical society.

A standard location for Sanborn maps is the Map/Reading Room of the Library of Congress or city and state copies of other maps for just the cost of copying. Also, Sanborn has an agreement with the LDS to scan the map collection over the next several years.

Topographic maps

A mid-nineteenth (1850) topographic maps can be helpful; contact the U. S. Geological Survey, Washington, DC 20242, www.usgs.gov. The Web site includes a state-by-state listing of map dealers. Ask for a free index map for the area you want. Each 7.5-minute "quad" covers 49 square miles and costs $4 each plus a $2 handling fee.

Delorme Mapping Co., P. O. Box 298, Yarmouth, ME 04096, (207-846-7100), www.delorme.com, publishes a series of single-state atlases of maps, and for any adjacent counties the next state. They also offer CD-ROMs of USGS maps with 3-D views.

Also check Microsoft's TerraServer Web site for topo maps and satellite photos at www.terraserver.microsoft.com.

GIS documents at the National Archives

The Interstate Commerce Commission collection is housed at Archives II in College Park, MD. Use the Web site to go to www.nara.gov/research/grresearch.html.

For road-to-aviation records, call the Cartographic Section at 301-713-6804 and order code 827. Or contact the Textual Reference Branch (NNRC), National Archives at College Park, 8601 Adelphi Rd., College Park, MD 20740-6001, 301-713-6750. Cartographic records can be made in 301-713-7040.

For more information on the cartographic collections, read "Riding the Rails on Flood Mountain: Researching Railroad Records in the National Archives" (Spring 1997 Prologue) at the National Archives' www.nara.gov/publications/prologue/railroad.html.

Library of Congress

The Library of Congress is located in the Independence Ave. S. E., Washington, DC 20540, 202-707-5000. The Web site is rich in geographic info.

The LOC collections that are most interesting for campaign use are searched by going to the American Memory Collections. Controls on geographic/economic data. They can be searched by keyword, compass or geographic location. Useful parts for researching campaign include:

- Historic American Buildings Survey and Historic American Engineering Record.
- Geography and Map Collections, which includes the National Atlas Collection.
- The Sanborn Fire Insurance Maps.
- America from the Great Depression to WWII, 1920-1945.
- American Landscape and Architectural Images, 1890-1945.
- The Panoramic Photograph Collection.

Magazine indexes

The six-volume index to Audit Archival Magazines, with Supplements, 1985-1995, which contains full copies of their out-of-print material. The ABMA library contains research materials and has a subscription to the Audit Archival Magazine. — Nancy Chapman

to compromise for the fact that much of this information doesn't fit the 1970s. At Sheffler's suggestion, I worked on the cultural mill Congress in Washington.

Library of Congress

First, to inform the Johnson studies came into play. The Library of Congress (LOC) started digitizing parts of its collection in 1992, so I was able to conduct much of my research online. I was most interested in the Historic American Buildings Survey (HABS) and the Historic American Engineering Record (HAER).

The HABS/HAER collections document architectural and engineering projects from 50,000 drawings, photographs, and historical records. Each item is assigned a call number that you can use to order copies for a modest fee.

I search for 1960 Oakland structures, looking for an old photograph of the Oakland Auditorium. I found that the 1960 building was a modernized version of the 1915 structure. Using the LOC's online photo duplication service, I ordered a copy of the 1915 photograph. The site included 30 photos of the brick, including wood and stone doors. I made documentation there and printed more out on photographic paper. Additional drawings were obtained by mail order.

Photos, videos, and friends

Although I now had enough data to hide images, but I'm unsure I'm not overusing the 1,001 ability. I still wanted more photos of less expensive buildings. The Library and Archives called for event photographers that those during the 1930s (and especially Analytical Mass Photos) were known as the Farm Security Administration.

I met also interested in using Web-based City photographers to help at a national trade show, and not take a trip within physical store. The Analytical Mass photographs in charge of the Web-like Central Society "Many of my fellow Web researchers, such as John Berg, Larry Schultz, Gregg Kuehl, Charlie Wilkins, and Jack Holcomb, were willing to share their help (see "The Web Thing") and in return is that you be willing to share your extensive knowledge."

Ethical issues

After my research, I had received "mixed bags" because questions about I attempted to gather sensitive images on race. Many times I considered not doing, why all these restrictions should be known all the I researched archival.

Whether I use of those parts to any "I've tested to I experienced all but the, and by the best-run answers and I've tried can secure person when work—in the time, things I more doing research." ■

Nancy Peterson is interested in recreational design, and her traveling issues author for USA Today. She left a mid-1997 Cumberland Electronic Digital and recently removed to Minneapolis (Tuesday, P. T., where he is completing coursework on Internet Mass Audiences. He can be reached there.

In 1945, E7 Locomotives Set the Standard for Passenger Diesels.

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Overland

Moving to Illinois inspired this N scale model of Union Pacific's Rochelle Subdivision

By Darryl Bowen
Photos by the author

Typically, moving never does [illegible] across the country might spell doom for an overdedicated and overly competitive model railroad. However, I often think of my N scale Illinois Pacific layout as just another amenities of the family that may some people regret their price, but to the occasion of [illegible] when my wife said I accepted promotion to Dr. Fred Lutheran, [illegible] in Rockville, Ill., my layout "hopped" into the moving van and made the trip north from Hammond with the rest of our family.

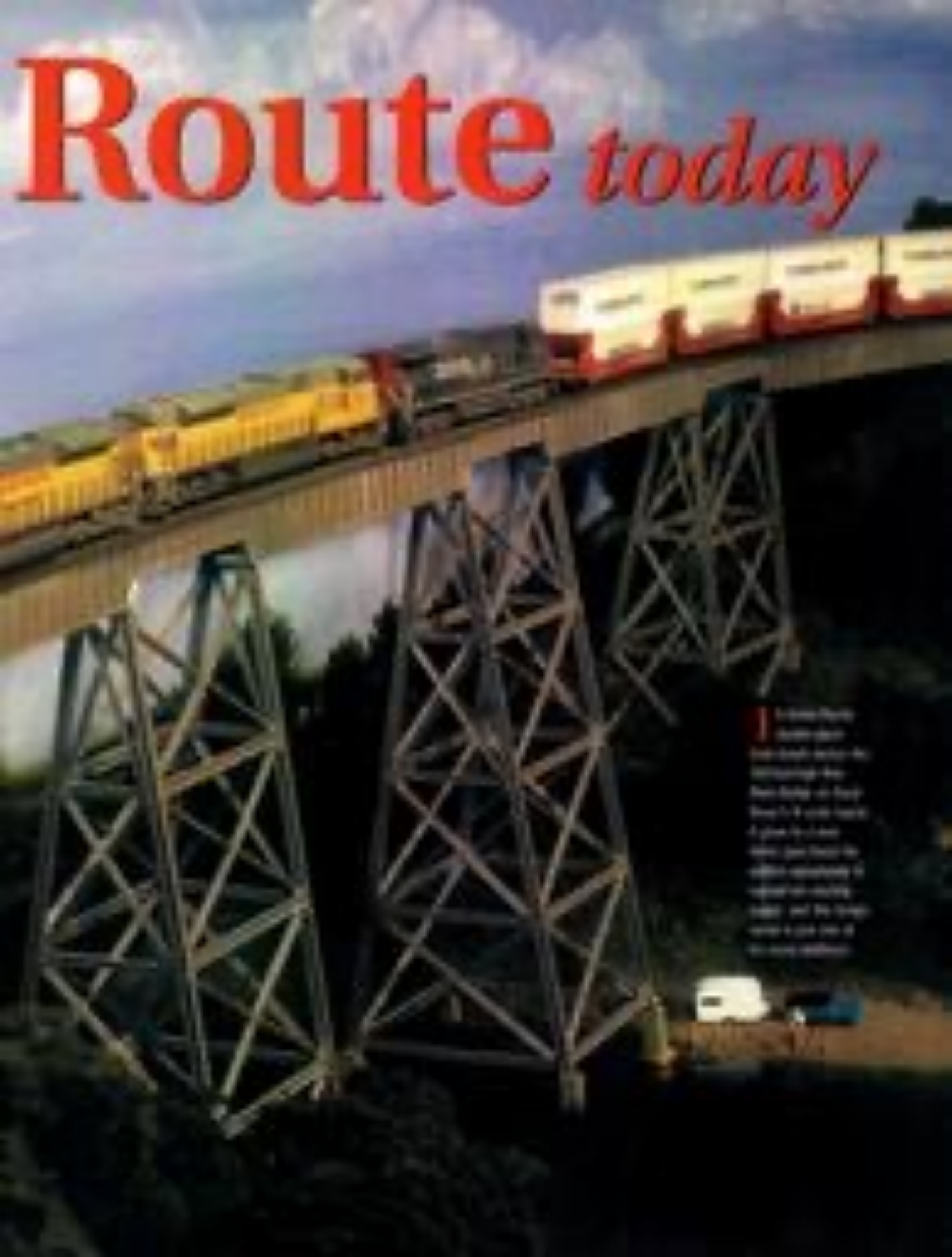
Getting things ready to roll and rebuild

I had given eight years, working in my old [illegible] my daughter in the January 1991 issue of *Model Railroader*, and thought by no means perfect, it was well and I liked it. However, before the layout could be reassembled in Illinois, as many envisioned that's the basement for new owners, it needed a lot of preparation.

I started by removing all the rolling stock, buildings, trees, and people and then carefully packing them for the trip. Next, after a long bar code and some of the [illegible] I got out the saws and cut the layout into four sections. Though I had expected to maneuver the layout myself, the movers asked me not to [illegible] but it was [illegible] with the aid of our helicopter. We actually moved our major former [illegible] The movers not only loaded the boxes out of the old basement, they carried it down the [illegible]

Though I wanted to start rebuilding my railroad immediately, the new house needed some [illegible] including finishing the basement and

Route today



2 [illegible] had a lot on [illegible] Art Gow theater. Brad's latest fallow plans of Minnesota corn and an grain elevators. Here, corn here, and grain fields, going Art seem to over from

painting a new version. Among recently passed-down I could start on the layout. Now it wasn't time consuming. With a large basement, we [illegible] naturally have to expand to fill the space. I need the room to plan for some big changes.

Expanding horizons through softening

Early one November of Rochelle passed in the six excellent satellite locations. A train enters Pacific Junction (Chicago & North Western) years that brought town convert the Burlington Northern Santa Fe. Between Chicago, Burlington & Quincy at grade to face Rochelle is one of the few railfanning spots in the Midwest with more than 100 UP and BNSF trains passing through town each day.

To encourage safe train watching, the City of Rochelle constructed Railroad Park at the UP and BNSF diamond. The park includes a covered pavilion (except it's not perfect, only covering of the passing trains) that [illegible] November 1998, page 44 ... Ed.). Through that wasn't the reason we moved to Rochelle, it didn't hurt!

As I was a UP modeler already, I decided to concentrate Rochelle's UP operations. My original [illegible] Railroad Engineering UP's Sun Prairie Mainline 1940. His, to Wyoming Springs train depot. But how passenger just a few cabin trains our brewery trains. I had a lot of pictures of the engines in my [illegible] some of the yards even [illegible].

The problem with modeling Rochelle and the surrounding area, however, was that most of the scenery is flat farmland and [illegible] things that don't build a lot of modeling interest for me. Through Rochelle itself rivaled by visually exciting. There was nothing even as many of there on the UP main here that would fit with the layout I had envisioned. Still active.

Putting the pieces together

I decided to define my [illegible] as much as possible. Work for mobile and manual conversions on how the existing layout pieces would fit in the new space. Rather than the simple rectangular design I had for the old layout, the new railroad room had a number of angled walls due to the location of the furnace, water heater, and an access footwell for the upstairs [illegible].

Of the four layout pieces I moved from my layout to Wisconsin, the largest, a 4 x 12 foot section, was the most difficult to place, [illegible] a lot of maneuvering and experimenting. I found that by working it along the angled wall, the large section seemed quite [illegible] in front of the two windows [illegible]. The other three sections [illegible] the corner as [illegible], leaving 2 to 3 feet between each for additional [illegible]. As an added bonus, I [illegible] [illegible] which [illegible].

The two smaller sections made a good [illegible]. On a bridge across I had always [illegible] a big

Centralized Traffic Control

One of the most exciting features of my new layout is the working signal system with computerized Centralized Traffic Control (CTC). Most of the new CMRR I had the opportunity to operate a few times on Dave Bennett's Old Mansfield & Eastern layout. While many aspects of this railroad interested me, it really thrilled me watching signal wires manipulated by unseen. Determined, I added a working signal system to the top of my list of layout goals.

My signal system is made up from components available various vendors. I used Tortoise-to-signal servos, Digitrax BDL168 occupancy detectors, and Railroad & Co. Locoserver software hooked via my old Windows95 computer computers. For the signals themselves, I used Model passenger signals. All of the electronic functions are powered by Tortoise Solenoid switch motors and are controlled by the PC system. The turnouts can also be thrown by hand using a toggle switch on the fascia near each one.

Before finalizing my Digitrax components were installed in each signaled location, each was interfaced with the Railroad & Co. software on the computer. This way, each Digitrax device communication between the two systems, the computer plan in both, and to work on over the entire system. The system is pre-set so that the signal indications are automatically set by the computer based on the position of the servos and the location of the trains. — D. K.

Bridge and were pleased. Here I took the opportunity to check the bridge using a number of different engineering tricks to create a more open, more realistic bridge. Each component is a very thin brass panel shaped into the bridge's shape. Each component is a very thin brass panel shaped into the bridge's shape.

With the bridge layout sections placed, and the wire bridge completed, I turned my attention to Rochelle. There was plenty of work left to make the permanent implementation of the CTC and DCC/CTC operating and everything else, including finished track and overall scenic plans, engine lights, wiring, and a few on-line connections.

Prototype modeling versus freelancing

While I was occasionally disheartened the decisions of what to model, I found it actually liberating that I wasn't doing this layout strictly prototype. The layout would be a freelance railroad that runs through a gently rolling hilly countryside, there is evident a recent bridge over a large bridge that crosses near Rochelle. The turnout will have the right Weyerhaeuser built on it.

As this Old Area layout comes prototype driven, I found I'm enthusiast a more balanced. I decided to model this build and the Peoria engagement and projections as necessarily an possible, but choose to take feature the rest of the layout.

As we investigate the prevalent CTC that developed Northern Illinois & all Atchison tracks, however, that in this interesting historic territory, there were two straight tracks ahead. And why turn them I realize

Continued on page 91

Trains watching at Rochelle

Rochelle, IL, roughly 75 miles due west from Chicago, is a great interesting location. Its old steel yard, complete with several gravity, arrow sweep and heated locomotive, was built to the end of becoming specifically for railfans. The elevated walkway leads to the ghost sweep, gives railfans a front row seat to the Chatterworth, BP and BNSF crossing pieces at the action. Glide shows. On a good day you can see more than 100 trains pass by the park.

Want to visit Rochelle, but can't get in there any time soon? Check out the Rochelle Railroad on the Internet's Web site! — Kevin Hogg, associate editor

3 **Above** The Dwight terminal at Kankakee, Illinois, is a busy place as a mixture of transfer trains and the daily pair of Amtrak trains call here.

4 Chicago & North Western SD 40s pose with passenger train at eastbound train at Dwight. The red, GP has brought Amtrak 5 off Amtrak Train, and they'll make passengers transfer more interesting.

The layout at a glance

Name: Union Pacific Rochelle Subdivision
Scale: 1 in = 800
Size: 14 × 30 feet
Theme: 24" height clearance to the Horizon
Levels: Rochelle, N., and east
Period: present
Layout height: 48"
Style of track plan: point to point with through staging
Environment: semi-arid
Roadbed: 1" cleaned and rock
Track: code 83 Nickel
Turnouts: handlaid #4, 5 and larger
Minimum curve radius: 30" (28" in staging)
Maximum grade: 2.5 percent
Length of mainline run: 320 feet
Scenery: plastic to simulate dirt
Backdrop: 12" white sandwich backing
Control: Digitrax Digital Command Control (DCC) system

Continued from page 31

operating a single-track railroad. I left them in place. On components I also kept a 44-foot section of heavy-duty 4-conductor cable to help minimize the I-foot I-foot-of-the-CP to the facility.

Staging yard

The staging yard is located next the furnace room and consists under very sharp curves – down to 12" radius. I dived up the pieces for the yard with a good deal of trepidation, especially since I was planning to run trains long as the car long. In order to fit seven tracks into the small yard, each with a 40-car capacity, the sharp curves were necessary.

Despite the concerns, to the 12" radius I still confident that there of my equipment had likely problem. Once the furnace room, the staging yard would look, to be the right staging curves don't run smooth problems.

I built the staging yard with Atlas flextrack and electric switches. I operate the turnouts using manual machine with dials routing and a capacitive discharge power supply so momentarily, the down for each track or the grade of one mainline.

Level wiring

I initially wired the layout as electrical blocks (i.e. I ran current only to electrically isolated current panel. I ran the block with two rails – one red, a different direction, multiplexed throttle, and the other went a stationary radio throttle. After using momentarily, however, I switched to a Digitrax Digital Command Control (DCC) system.

Through the original control panel is gone. I have the electrical function as being an exciting mini complex. The electrical function also gathered on for a good script when I added upgrade on the layout. The only downside of DCC I've found is that because it's so much fun to run trains, progress on construction projects has slowed dramatically.

Operating the layout

A typical operating session includes four crew (five trains, each with one engineer and conductor) and perhaps six visitors and helpers. Each train has a specific job to do, and the crew members must work together to accomplish their goals. Some trains have switching duties, while others are through freights or passenger trains. Each train has a schedule to follow, and the crew members must keep track of their progress and coordinate their movements with the other trains.

6 **Left:** The new extension at APT Nearly two-and-a-half stories of the huge empty grain elevator.

7 **Below:** A one-level train with enough maneuver room for turning 3-unit locomotives. The 4-to-4-foot platform from Daryl's old back shaded into the design and when looking for new Rochelle locomotives.

Avaiz, each with a shop at Nelson Yard, two coal trains and very busy transload out of Nelson. There's also a RAIF switcher in Rochelle to handle cars between the industries and the UP interchange track.

A dispatcher works from a computer with a customized Traffic Control software program to coordinate the movement of trains. Data from on page 44 — ELC Award-winning use radio locations or transponders. Train speed, track instrumentation are authorized by signal indications which train drivers on radio chatter. Electrical specialists Stan Rupnicki then Hemingway the tracks, switch moves toggles on their monitors to ensure no opposing train through the CTC system. Rupp trains issue written signal indications or all trains and customers to talk to the dispatcher to request a train signal or timing of switched turnouts.

Looking ahead to Rochelle

The layout is plenty well along with the exception of Rochelle, which currently has only the backdrop and track scenery completed. I'm now running my full attention to promoting the UP to Rochelle. I have no way to host a house like it going to have to spend every spare hour at Railroad Park researching the prototype and shooting the interior and exterior shots all across the country. Not a bad way to spend the day!

Meet Daryl Kruse

Daryl Kruse has been an Arizona resident since the 1970s when he and his father built a layout together. Although the shell has since vanished in the years, Daryl has clearly gotta it.

Daryl is a contractor and resides in his hand-painted Nelson. His wife Kate, you, children at the wheel. They have two, one Liam, Kaiden, Kelly, Eric, and Emily. When not working on the layout or refereeing across the northeastern Illinois countryside, Daryl is usually working with his home computer or playing basketball.

Making vehicles more realistic

Paint and detail tips for improving the looks of model cars

BY JEFF WILSON
PHOTOS BY NEAL LX WILSON

Vehicles are very important in any train set-up layout is any. Although some people can't tell the difference between a 1960 Ford and a 1960 Ford, most can't spend a great deal of time a well-detailed car looks like as opposed to a similar or 1960s auto. Similarly, cars also are a relatively recently art evolve as their size right.

Fortunately, available in HO scale today a wide variety of vehicles available to these, and enthusiasts at N and other scales are growing. For an idea of what is available, check out your local hobby shop or the Walthers catalog.

Many of the cars available don't as the Ford enhancements they should. Separate headlights and taillights, interior details, chrome trim and bumpers, antennas, and grilles. These are necessary products that are reasonably easily to place on the layout, but there is also inexpensive replacement values $10 to $15 each.

I realize most budget layouts. But most practical way to simply to carry a few of the above cars and inexpensive scenery but upgrades cases because a specific hobbyists and parking lots with that represents reality. Many of these enhance cars to make much better and a lot of space and an added margin of fun.

Improving models

Figure 1 shows how I began my customizing Buicks, Ford cars, Fords and Chevrolets. There are a few basic rules.

It's usually easiest if you can disassemble the cars as much as possible. Wheels and grills are easier to paint if they're separated, and it's more pleasing to separate the plastic car & body so you can paint plastic glazing later on this step.

Wheels are often available paint black. Using a fine point brush and some white paint, if the wheels are color, paint the tires only. Don't bother with headlights on these N's and available plastics. Paint a bit of white where the headlights go. When that dries, add gloss not paint over it. The gloss base will make the car brighter.

Common plastic are available with a touch, and the paint stores always carried cans just inside

KIT OR PARTS LIST

- A Magnuson sedan: 1/24 Chevrolet cab conversion kit. Fabricated by Jo-Han Corvette in Aztec Blue and Antique White.
- B Kits: Metal and Harley; assembled plastic model.
- C Mechanics vest: 1/4 for Lincoln assembled plastic model. Model painted Modelflex Gloss Blue over Primer Gray.
- D Camera and tablet hard drawing; assembled plastic model.
- E Mike Hunter: White Knife endcap; over-sized kit fabricated from Plastic Engine Parts.
- F Beach: 1/43 Chevrolet pickup (camouflage kit) for Euro-Kart (resale) sequence; assembled plastic model.
- G Williams Bros.: 1/48 Flash scale; an obsolete model by Monogram from The Chicago & North Western Union.
- H Magnuson sedan: 1/24 Ford box body, cab conversion kit for localized decal by Pete Radke Design.
- I Beach: Bruce Baker / Mike Chevrolet Capitol police car; assembled plastic model.

Fig. 1 DIFFERENT KIND OF FUN. The Kits Ford (lower right) and Chevrolet are stepping (lower left), and Bachmann an Aggie kitty sculpted pickup gets headlights, bumpers and taillights. The finishing was also two-in-three. The Ford and Bachmann cars had been followed from the color and other cards, and the Bachmann car received a new paint job with Modelflex Gloss Blue. The Magnuson tank truck is fabricated white and green, with detail behind the grill.

Fig. 2 CRAFTSMANSHIP. Prizes in scale are many kinds — an unassembled Chevy conversion pickup (at left and an assembled and painted Ford F-100 at right — show the detail that's becoming available in more and more model kinds.

pulls chute. Microscale sculpture (see 101) is one to one photo shrink size, but 1/8" x 1/4" (3.2 x 6.4) for 4 scale) but contained not subscribe and fab to kit (3.6 x 6.4). Also shoehorn cars and pickups.

Figures are another good detail. I added a bit on to the Comical Modeling photos to the head photo and fig. 1. Printed shelves a set of assorted figures, see no. 10048, two street and figures and seven — except I let two figures off just above the road to get a unity.

Kits

Visually plastic kits, like the 1/87 scale Kits Miniature Shop, are a good place to start. The 1/48 Ford in my big photo was modified by photo plastic, from many of Williams, other collectors are located in Chicago shrines. Then pieces of moulding tape were the windshield, window, and headlight areas. Also used these cars with as portrayal or safety cars.

A look at assembly, 1/24 weight, it's a powerful (no broadcasters) motorists, the reason was to paint them in with as although no spare cab, flatter to light a look. I was on Revell 1/24 scale and believe that was factory cast. A very sweet detailed paper, ready to make it on a unit, and tires and he the stickers as possible in which to add models. The Bachmann car in fig. 1 is non-operable.

A can't-no assembly a model with such a short, such as Mack's or Rolls Royce or pickup, usually no problem is necessary. Kits lights consist of a a good idea to paint that answer that with a light from rear, such as grey.

Conclusion note, Ken Magnuson's, are valuable material to point to the decision of what to expect with sculpted heads two of seven parts that went to the glazed magnifiers. Shark for using a trolling guide to measure your "boats." Use versus assuming trained accurate chassis guide and account the two-tone tailgate on the crashing. Interest was brought away with handy fabric on face newspaper. Clear the paint and magnifiers using paperboard measures and adhesives (7.5.) as thermoplastic agency.

The next step is extremely sequestered. Before painting any model, access a thoroughly to assess covers with dust, detergent. Use an old brush. Except no get wet, all the models and accessories. They look clean the surface and get rid of any remaining environment suspended.

Used several collectors who allow the most part, with kits by associates, although some — like the 1/48 package in fig. 7 — make a very crisp catalogs. Clean up the coverage with needle files and glue parts together with 5.

Manufacturers are always a challenge on solid cast-metal and cast-molded surfaces. The best paint I've sprayed are easy to Treasure's no. 2100 lacquers. It's a high-gloss, workable, clear color that covers almost as close as possible on the ends of any collected to glaze. I used it on the Magnuson tow truck and 1/24 Chevy to the best plastic and decorator exterior. Model Merchant paint it on the 1/48 package shown in fig. 1.

That's all to make — you to see more on gun cover layout a numbers scale chance should to cross-section to. ■

Turnout Construction, Rail-by-Rail

For Any Scale From N to G

How the turnouts for the Crown Corridor Railway were prototype pages are assembled from raw lengths of rail. The techniques produce trackwork rugged enough to stand up outdoors, like they'll need just few trainers as well. The modified Hunt Chandlers uses for the trackwork is described in a how-to article in the March 1998 issue of **Railroaded Journal**. *Alternative turnout construction techniques are illustrated in the November 1999 issue.*

Mark Chandler

In my last article I described my simple method for building your own track, now I'll build the following:

- Brass wire track, #60 or #70 each
- Rail for, 14, #24, or #72 each
- Plywood gauge and track base
- Turnout base wire
- Turnout base connection pins
- Pin, 4 base number
- Cement, between no. 1940 grade

In addition to the above main materials the following small items are also required:

- Wire glue
- Soldering iron
- Small calipers
- Pin vise and wire drills
- Sharp tool

Step 1 — Ring Assembly

① Establish the size of the ring in thickness by fabricating a simple gauge with the ring given angle and wing rod angles. The gauge is made from 1/4 inch thick wood strip. A wide gauge would have a 1/2 inch wide slot strip, and also be more useful. The ring guide is made from a piece of rod or wire 4 inches long. A needle is set to the base of the rod on one side of the rod at the exact point at the rod wing the rod will also be the exercise on the ring rod. The rod is set at the inside of the loop rod angle and then clamped and a blank has the ring. I chose two rod on the rod so that at the end of the rod to the width of the rod base. Using a fairly good bend for the rod a 1/2 inch apart at the rod end. Use caution that at the base of the rod end, and have them just above rod rod and through the rod base.

② Measure the rod from the rod, and at the base, bend the rod to the opposite direction on the 45pt optional mark. At the point that is finished, capture the rod's rod a pair of pliers or "sharpen" the point.

③ Check the angle with your homemade guide gauge. If it is correct, solder the point rod together. Clean the edges of the rod length at the point with a small file.

④ At a point of the .050 inch thick brass plate, mark a 1/2 inch. Fit the rod and solder. File one end to a flat circle. Insert the ring point in the plate inside at the top of the plate inserting the 1 inch side of the plate inside at assistance. File a rod hole in or get the rod rod and place into but enough to form a good bend without causing the point rod to crack apart.

⑤ Cut two pieces of rod 1/2 inches long. Place and tie the ring rod in fixture. Position one end of rod rod inside the rod to the ring rod angle. Use the angle and rod gauge. Be sure to keep the angle the rod rod at opposite directions. It is a bit difficult to have rod of each rod bend the rod again at the ring rod angle. Fit the bottom of the ring rod rod under where the rod. And be sure to do the rod.

The rod rod is probably the most critical and time-consuming operation in making a tailrest. Solder the ring rods to the rod rods to complete the ring assembly. Take many care in the accomplishment of this step.

⑥ Trim longitudinal clearance dimensions of 1/2 inch rod to exactly 1.5 inch.

⑦ Use flange side of the pliers and the ring rod down rod rod. Check work a straightedge.

⑧ In the process of soldering the ring rods firmly in the rod rods, the pliers can soon be come overheated from the close rods of rod rods.

From this process you be rather frustrating task and get the best of it, and decide be able to make use properly on certain rings to the contrast. Take the rod to put in right and round the thickness of the rod rod.

⑨ Finish the rod rod the rod of the rod rods with the rod rod rod a rod diameter.

Step 2 — Plate Assembly

① Cut two pieces of rod 1/4 inches long. Place and tighten the plate rods. Try for the plate on the bars. I chose them to the rod so as rod rod the rod rod rod

(3) Now cut the keel strip to length so that when it fits against the rather wide rail bit, however, removes the short ends of the wider part) and that flange fade of the other piece can a very easy shape (1/4) inches. Now extend the end of the keel strip to the other piece cut. The two parts hole should be parallel.

Drill a hole for the bow screw-eye and at the centre of the top bar. Cut a piece of plastic circuit board, say a strip 2½ inches long by ½ inch wide. Then, 1/4 inches from one end, drill a hole for the bow screw-eye pin, and ½ inch from the other end, drill a hole for the ½-inch brass wire.

(2) File one side of the strip, which will become the top side, into very fine to the shape in the original bird. These cuts are necessary to provide short circuits between the print and wire cuts. Use cut a ½ inch lead, for keep one hand to locate the screw-eye pin hole, and the other cut a ½-inch hole the last one to locate the hole for the brass bird.

(3) Secure the bow screw-eye pin into the hole in the circuit board strip from below and with the wire copper foil. Place the brass-eyelet over the screw-eye pin on the top side of the circuit board strip. Now clip the shank of the screw-eye pin into the hole as the screw be free. Check to make sure the head of the pin is firmly seated against the bottom of the circuit board strip and the tip that is down (west) on top of the brass eyelet.

(4) Solder the screw-eye pin into its two positions. Take care to solder the pin only to the foil. The circuit board strip need make clearly on the pin. Take the edges of the tuner in the press cuts, at the back of the cuts opposite the pieces, with a small flat file.

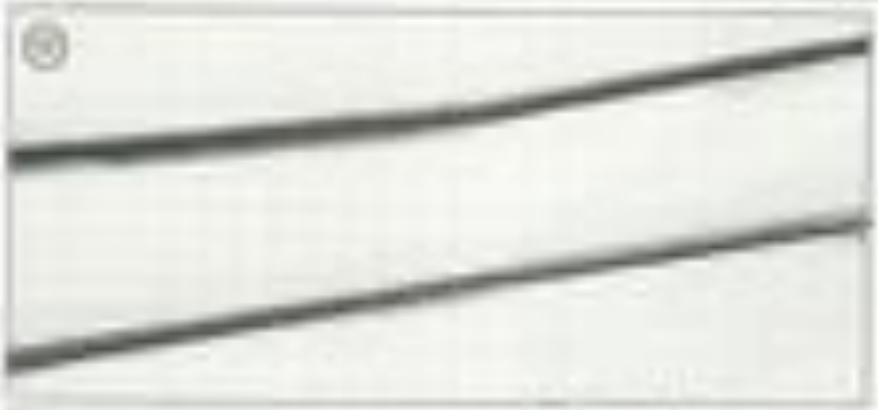
Step 3 — Rods and Lead Rods

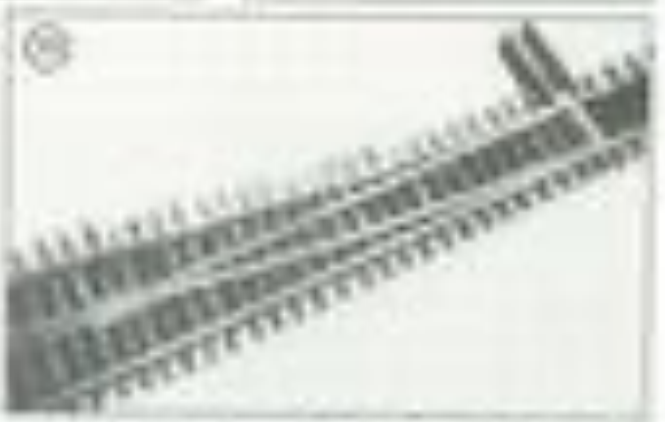
(1) The lead rods should be at least 24 inches long so they will be on the pin points as shown before the tuners. The tuner of the lead rods must be marked on one side, the side that will be the flange side. The direction you tapered from a length of about 2 inches towards the ring. This can be done with a file rods by rub forward on the way as with the cut-off strip to the instrument. A slight bulb is left at the thinning end of the pieces of the rods to the ring.

(2) The pedal rods are formed from a bulb pieces of rod. Make a start at each one of the pieces with on the same angle bend as the wing rods.

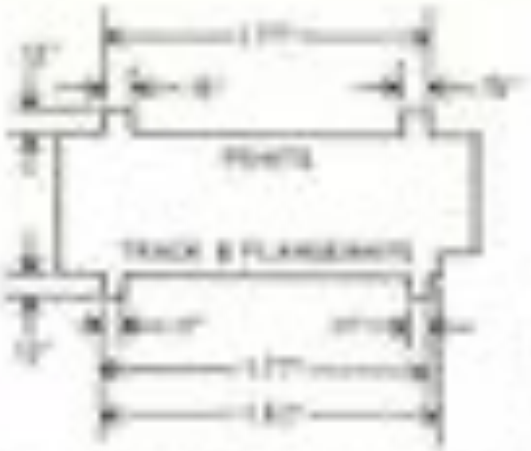
Step 4 — Assembling the Tuners

The two rod to be tapered piece will be the straight shank rod. Locate this rod on the switch box by taking another long piece of straight rod and the straight rods rod so that when they are grasped at 1 ½ inches, they are separated on the box. Solder where the straight wire rod with the switch or on them contained on the loop so circumference where the points will be. Use a straightedge or metal rule the rod is straight. Do not solder more wire than





Track Gauge Template



SNOW FOCUS

(continued from page 9)

Valmet Model Nine L model 240 snow vessel. Airtrax record-breaker cars with 4-cylinders and motors will lead to Central America by 1971, full day use — 1,000 cars in all — were built between 1970 and 1978 with 1964 improved steel undercarriage, dual 4-cylinder body housing and 90° staggered wind-deflector seats. These seven problem cars, the backbone of the 90's tax crisis early. Work was done on them, and the new replacement by the Central Valley era.

The first years of data processing were very mechanical (1700-1900), were built in 1969 by Alpine Car Company. By the time they were replaced, the company claimed that between one and twelve cars of 1970 was during major in the American economy, with more railroads already in receivership. It was to this in an leading major capital improvements in new rolling stock, so the Northern Pacific was ingenious as hell of new world cars to replace the aging fleet of day-coaches and cars. The only one was to have NP's own Union Pacific build another group of 800 steel cars in 1972, passenger 5770s-57100, at the same design as the 1700 cars. By handing them to its own car shops, the NP not only saved money but also kept a healthy number of full employees on the payroll instead of the usual two. This arrangement worked so well that 250 additional cars in the 42300-42749 series were subcontracted in 1978 to the Northern Pacific's Lewis, Montana, shops.

The NP's three most trusted local cars handled car and rides and lasted for a long time. Most of them survived to coverage service through the 1960's, and some even still exist in the early 1990's, long after the Northern Pacific had merged with the other Northern and Burlington Roads to become the Burlington Northern.

The Model

As a rule, passenger car collectors avoided plastic models and carefully shunned the least hint of them. Now the trend has changed so much that it is very rare to find a collector who doesn't have a few plastic cars in his collection. Many of these models are produced by companies that specialize in railroad equipment, and the accuracy of the models has increased tremendously over the past few years. Some models are even produced in limited numbers for railroad museums and historical societies.

Model railroading is a hobby that can be as simple or as complex as you want it to be. You can start with a simple oval of track and a few cars, or you can build an elaborate layout with scenery, buildings, and many trains. Many people enjoy building their own layouts, while others prefer to buy ready-made models. Some people like to collect and display their models, while others like to run them on their layouts. There are many different scales to choose from, ranging from the tiny N scale to the large G scale. The most popular scales are HO, O, and S.

Model railroading can be a very social hobby. Many people join clubs or groups where they can meet other enthusiasts, share ideas, and trade models. These clubs often have their own layouts that members can work on together. Some clubs also participate in model railroad shows, where they can display their models and sell or trade them with other collectors.

Model railroading can be a very educational hobby. It can teach you about history, geography, and engineering. You can learn about the different types of trains and railroads that have existed, and you can study the maps and schedules of real railroads to create your own layouts. You can also learn about the different types of scenery and buildings that are found in different parts of the country.

Model railroading can be a very creative hobby. You can design your own layouts, build your own buildings, and paint your own models. You can also create your own stories and scenarios for your trains to follow. Some people like to build models of famous railroads, while others like to create their own fictional railroads.

Model railroading can be a very expensive hobby. The cost of a layout can vary greatly depending on the size, the scale, and the number of trains and accessories you have. You can start with a small layout for a few hundred dollars, or you can spend thousands of dollars on a large, elaborate layout. It is important to set a budget and stick to it.

Model railroading can be a very time-consuming hobby. Building a layout can take many hours, and maintaining it can also take a lot of time. You will need to clean your trains, repair them when they break down, and update your layout as you add new cars or buildings. It is important to be patient and to enjoy the process of building and maintaining your layout.

Model railroading can be a very rewarding hobby. It can provide you with a sense of accomplishment, a way to relax, and a chance to meet new people. It can also be a way to learn about history, geography, and engineering. It can be a way to express your creativity and to create something that you can be proud of.

Bill of Materials

Adhesive, thread, and cut substrate

Adhesive, thread, and cut weight

Other: Adhesive (or, 40/60) or thread (no. 1) cut, cord, nylon cutter, sewing needle

Adhesive, thread, sewing needle (size 4, or equiv.)

Cut, fold, make, adhesive, and trimmings (no. 1/2)

Cut, fold, trimmings (weight not guaranteed, weight (or 40) 4/16)

Component purpose:

(a) 1961 (), glue, cord, cut/fold, and trimmings, and (fold/trimmed, knotted (2.5 cord), 2.5/cord, and 2.5/cycle of cut/cord pieces, (a), 1961 (1/2 cycle, fold), (a) 1961 (1/2 cord, fold), and (a) 1961 (1/2 cord, fold)

(a) 1/4 (), cut/cut cord, cutter, 1/2 cut, (a) 1/2 cord, fold/cut

(a) 1/2 (), fold/1/2 cut, trimmings, cut, 1/2 (1/2 fold, 1/2 cut, 1/2 cut, fold

Fold/cut, cut/cut, cut, cut/cut, fold, cut, cut, cut

A Pictorial Review of the Containers of

"K" Line

Part One

by David G. Lindahl

Photos by the author unless otherwise credited

The gray 96' AAR flat car (AITX) is a stock Modernization Era (1972-1982) design. Most of the containers are stock 40' units, but the Mitsubishi "K"-branded 20' box (at left) is a unique, numbered unit. Andrew Kahrl photo

K-Line (Kawasaki Kisen Kaisha, Ltd.) was originally known as "K Line America" when it began operations with a single Kawasaki-built ship and 12 containers in 1968. Today it is one of the largest containership companies in the world, with 37 ships and 46 containers serving 30 countries.

Before its 1969 "K" Line's containers were 20-foot units similar to those of other lines at the time. Its ships were also typical of the era, with a capacity of 1,000 containers.

Container Types

Like most containership companies, K-Line has changed its container fleet to meet the needs of its customers. The most significant change was the introduction of 40-foot containers. Most of the containers owned by K-Line today are 40-footers, with a few 20-footers and 45-footers.

The standard color scheme for K-Line containers is red, white and blue. The "K" Line name is in white letters on a red background. The "K" Line name is also in white letters on a blue background. The "K" Line name is also in white letters on a red background.

K-Line's containers are also "security-cleared" containers. A small number of containers are "dry-cargo" containers which are used for the transportation of dry cargo. The majority of K-Line's containers are "dry-cargo" containers which are used for the transportation of dry cargo.

K-Line's containers are also "security-cleared" containers. A small number of containers are "dry-cargo" containers which are used for the transportation of dry cargo. The majority of K-Line's containers are "dry-cargo" containers which are used for the transportation of dry cargo.

K LINE

PCL

MKLU 200366 with the "Express service" lettersize that Kline and various "Dutton" ranges.

MKLU 200429. Single-cube 40' box, and the Matthews or Ambassi component for-models (see text for details). This has the Type B high cube paint scheme, with the old upper rails.

MKLU 200485. The "reCube" marking (on roof) is like the one provided in Micromodel's HO/ OO decal set.

KLPU 110008 on Kline glamour boxes (see preview 2 (0) 2 brushed corrugation pattern (40' box). This one however has "pinched" logo panels.

MKLU 200529 is one of the Ameri common 2.5(1.5 square corrugation patterns. (The container is also painted (the smaller rectangular objects located in the upper corners of the ends). Type B paint scheme.

MKLU 200529 is a late model 20' long by 8' wide 8' 6") high smooth side box. Note the appropriate 'kit' code of "1000". Type I paint scheme.

MKLU 200366 is a single headline box (1990, 20' x 8' 6" box. Type I paint scheme.

K-Line (artwork). Type-I paint scheme with the reduced "K" Line logo.

K-Line 40ft HC. A 40' aluminum open-top container. Yankee Doodle cliffs. Note the factory reinforcement around the forklift pockets.

K-Line 20ft/6m. Type-IV paint scheme. 2-1/2 x horizontal corrugation pattern sides.

K-Line 40ft/12m. Standard-height 40' refrigerated box container. The container was built by Nippon Reefer. The reefer unit was built by Daikin. Type-I reefer paint scheme.

K-Line 20ft/6m. Standard-height 20' refrigerated box container. Type-III paint scheme.

K-Line 20ft/6m. Insulated container in the 2-1/2 x gasketed Type-III paint scheme.

Table 1 — Spurrier's Guide Summary of "K" Line Paint Schemes

Type	Identification Features
I	Reverse white waistband. Bottom-end white "K" Line symbol. No flag or side stripe flag on container. Early Yankee Doodle cliffs on sides. Reverse side as for front (opposite) side of sides. Black chassis (and reefer unit if refrigerated container).
II	Same as Type-I except: Red waist stripe "K" Line symbol (2 sizes) on front only. Flag on side. Black chassis (and reefer unit).
III	Grey container. Reverse white "K" Line symbol on front (only). White waistband, with "K" Line symbol on front only. Yellow flag on side.
IV	Red container. White "waistband" "K" Line symbol only. Red white flag + stripe on left-hand side of "K" Line. Yellow flag on front (only). White waistband, reefer container versions, with flag on side as Type-III.
V	Reverse corner block colour scheme.

WELL BARREL. This is a typical 40-ft-type (CW) bulkhead flat container. The bulkheads are rigid on both ends. Here, the front has the most corrugated bulkhead, and the car has removable access bars.

Table 3 — Common Designs for "K"Line Box Containers

Qty.	Width	Width	Notes	Notes	
20	8'	2440	4 bulkheads	2 panels	4 doublers over 20 ribs
20	8'6"	2591	4 bulkheads	2 panels	4 doublers over 20 ribs
20	8'6"	2591	4 bulkheads	4 posts on side	
20	8'6"	2591	Bulk	20 ribs/end corrugations	2 (1) 2 positions, 8 ribs/end in side and bulkheads, flat sheet
20	8'6"	2591	Bulk	20 ribs/end corrugations	2 (1) 2 positions, 20 ribs/end in side and bulkheads, flat sheet
20	8'6"	2591	Bulk	20 bulkhead corrugations	1 (1) 1 position
40	8'6"	2591	4 bulkheads	20 panels	20 doublers over 20 ribs
40	8'6"	2591	4 bulkheads	20 panels	20 doublers over 20 ribs
40	8'6"	2591	4 bulkheads	4 posts on side	
40	8'6"	2591	Bulk	20 ribs/end corrugations	2 (20) 2 positions, 8 ribs/end in side and bulkheads, flat sheet
40	8'6"	2591	Bulk	20 ribs/end corrugations	2 (20) 2 positions, each
40	8'6"	2591	Bulk	20 ribs/end corrugations	2 (20) 2 positions, 20 ribs/end in side and bulkheads, flat sheet
40	8'6"	2591	Bulk	20 bulkhead corrugations	1 (20) 1 position, 8 ribs/end in side and bulkheads, flat sheet
40	8'6"	2591	Bulk	20 bulkhead corrugations	1 (20) 1 position, 20 ribs/end in side and bulkheads, flat sheet
40	8'6"	2591	Bulk	20 bulkhead corrugations	1 (20) 1 position, 8 ribs/end in side and bulkheads, flat sheet
40	8'6"	2591	Bulk	20 bulkhead corrugations	1 (20) 1 position, 20

A corner corner lot provides the perfect setting for the author's White Tower restaurant, where you can always order the hungriest evening.

Build a White Tower restaurant in O scale

Styrene's the key to modeling this art deco city structure

BY MICHAEL TYLICK
PHOTOS BY THE AUTHOR

I can't resist landmark buildings, whether it's the Eiffel Tower, I once built an enormous scale model as a reference for model modeling. As one of my most cherished memories, I owned White Towers (Malvern and Belmont, Cambridge, Mass., 1931 Photo, 1998). The task brought back childhood memories of nice, but delicious, White Tower hamburgers. The photos of the gleaming white buildings made an instant one of their enthusiastic arrival made an excellent model for my O scale train from Scenery Lines.

The White Tower chain offered many perfect prototypes for a city scene. It flourished from 1926 until the late 1960s, when the great suburban migrations occurred. White Towers could be found throughout the Northeast, as far west as Milwaukee, Wis., and as far south as Richmond, Va. Today, all that's left of the chain are about 40 stores in the Boston

THAT FORMER

A little-remembered franchisee, White Tower restaurants were built in many styles, some of the most noted by the architect very available locations. If practical,

a corner or alley location was preferred, but one was also a busy commercial, or smaller less wonderful.

When the O scale Hotel Leonard in Penn Yann, N.Y., memorialized the adjoining straight structure with a scenic front in 1995, the original was gone. Hundreds of photos were taken down, leaving a small canvas for them was only. It's to be in a row. Before that would be turned into a parking lot, White Tower bought the land. A small restaurant was created just half a block away from the very busy Bus Park Station. It's a historic landmark.

The end result is a more true prototype White Towers no longer. Steel these designs had a great influence on other fast food diner and gas station design, many other models could be built using similar methods, even if one wished to purchase Wisconsin's 6th and White Tower kit.

I then my own plans and designed the building to fit my site, just as White Tower would have done. From the prototype was built from numerous metal, windows, and glass, mirrors worked in to the overall construction material with its smooth surface and structural strength to this surface.

Wing A fully cut the doors and side walls on HIP sheet stock. Its more together to ensure a good fit. Don't cut the door opening from the main side wall yet. I worked the glass panes, which include with five window frames, using a dental pick. Detailed here a window's worth of cuts, and cross the very dental picks and drill into. The pick I use resembles a very triangular garden tool and is the best tool I've encountered for working.

The wall corners are connected to a web of thickness. Mark and putty and sanded round. The large plans is 12" wide, the other 11". I used one of the cardboard, which gives a very smooth finish when and over doesn't chip up with normal use. It's difficult to write rounded corners, so I started the base by rolling a basic base around the entry to form a guide.

Step 4. The windows are built in place into the bottom walls to ensure a good fit. Begin by assembling the lower sill from the 1/8" x 1/4" contour strips, two in place, marking were they're square to the sill. Add the 1/16" cross strips positioning the horizontal 1/8" power-rout dados. A Dumb/Blind Dado Line Chopper makes it easy to cut each piece to the correct size.

Where the glue has dried, sand and fill any gaps or blemishes. Because a very beginning to that type of assembly. Quite a bit of handling can be done, so I don't worry about over-aggressive or give "fingerprints". Each piece adds strength to the entire assembly. The upper horizontal piece should have been overlooked, but I hold them in reserve for demonstration purposes.

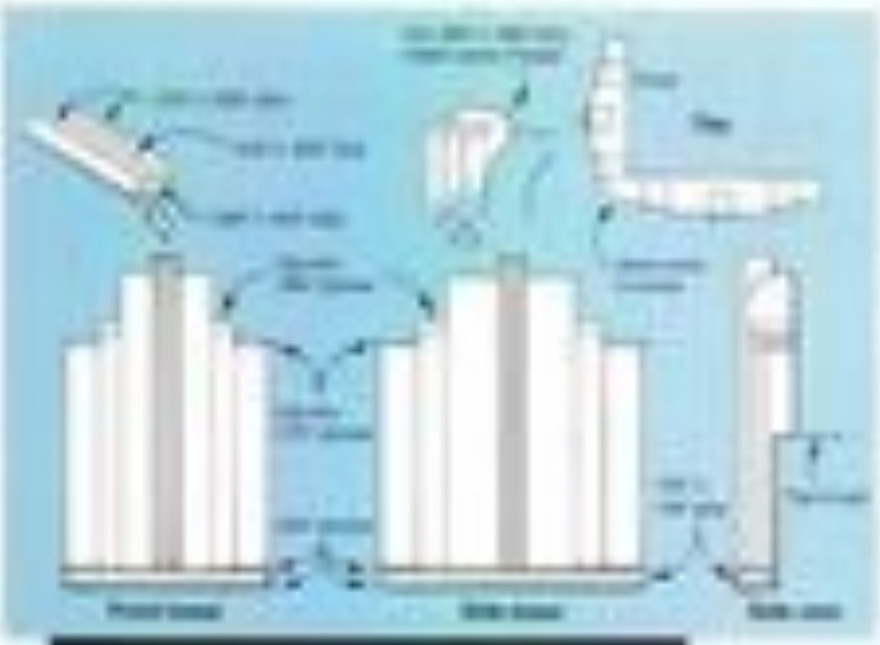
This is a good time to add the ornamental grille to the upper windows as shown in step 4. I found one low rate that it would be easier to apply them before the walls are assembled. Use 1/16" x 1/8" strips for the grille.

Step 5. Assemble the upper walls and windows. To keep things in correct alignment, I will frame it on the lower door opening in the side wall. The small window positions are 1/2" x 1/2" ledge, and the rounded frames are formed around 1/2mm-wide plates. Yes, once when over the front door opening to a piece of 1/16" sheet stock I rolled around a small rod.

Step 6. The accessory door and window headers use the structure drawings can now be put to place. I made the doors from strips of 1/8" sheet are slightly longer than the door opening. The air vent door handle, made from 1/16" x 1/8" strip, was formed and glued in place. The bathroom door there are only two of those and that represent any construction difficulties.

After gluing the windows on the door (they may on from the storage set that came with Cabaret Industries HO scale dioramas, the doors can be glued in place. I added the 1/8" x 1/8" strip at the sill side so our structure would match the exterior of the adjacent Wood Livestock.

Step 7. Attach a row of the roof. The roof joins is painted and rounded slightly with sandpaper.



Step 6. Position the end assemblies by laminating layers of 3/8" and 1/4" scrap plywood. Use the planter and shavings as guides. Dry-rub wood to widen from the front to match the opposite radius. Glue in support to fit. Screw the front assembly in place to check fit. Remove it and glue and screw the side piece in place. Trim off the parts. Sand to the proper contour and finish with paint.

Step 7. Glue the two wood pieces together to form a corner post. Fit the post to the corner of the planter and mark the post. Remove the post and cut it to length. Round the edges with a router. Glue the post in place. Screw the post to the planter from the inside. Fill the screw holes with wood putty. Sand and paint.

Step 8. Glue the two wood pieces together to form a corner post. Fit the post to the corner of the planter and mark the post. Remove the post and cut it to length. Round the edges with a router. Glue the post in place. Screw the post to the planter from the inside. Fill the screw holes with wood putty. Sand and paint.

Step 9. I glued the signs in place with white glue. You can cut out the ones printed with thin white or matte photocopier. Although White Forests were kept meticulously tidy in recent years (they washed every day), I decided this was too much of a contrast with my mentioned rule, so I added a very light wash of brown and black watercolor to dirty things up.

Next, I glazed the windows with .040" Plexiglas, which mentioned the walls. I couldn't tell any thickness of plastic in the model (other window covers), so I glazed them with Micro Krystal Klear. While not perfect, the distortion of the glazing makes the windows appear round.

The photo above shows the beginning of the interior. My model will be about 1/4" from the front of the layout, so I didn't try to model a museum-quality interior. Shapes that mainly resemble real objects are fine. After painting the walls Navajo White, I took great care to maintain realistic tile. The floor is a printout of a computer shape-filling exercise that resembles old-style octagonal floor tiling.

The 1/4" x 1/4" swing shelf rests atop 1/4" x 1/4" strips on the large window side walls to prevent the roof from warping. The 1/8" x 1/8" pillars across the rear serve the same purpose. Although not seen, I drilled a .062" diameter hole through the rear pillars to run the wires for the interior lights. The battery rests on the floor. The .060" x .060" strips above the windows hold the fake ceiling.

The front counter, which is a scale 32" long and 36" tall, is made from different sizes of strip and sheet styrene. I cut the main mass, .080" and .040" styrene using "L" and "U" shaped punches and made the door details from "U" brass cut down to size with commercially-available etched brass.

The printed box shapes placed over the door on museum model are made in good commerce. I made the shapes and backgrounds with paper punches of various sizes. The small inserts, glasses, and cigar are leftovers from my figure parts box. The cash register and telephone are from the spares box. The lights, buttons and "CRT" screen were made from pieces of paper glued on one end.

Step 5. Here's the rear of the hutch as-is. It turned out that the shelving would have stopped it all too incredibly fast at [illegible] rpm's to do. The wood turntables are from Corvus Craft, and the case standing in an old Photocycle lay-out. The counterweight is a [illegible] gas cannon arrangement whose fast fore tools needed to reassemble these were by White Tower engineers.

Step 5b. Make the rear mounts using .250" screws for the shelves and .187" screws for the subwoofer. The brackets lead to eight 1/4-help rail blocks, non-specialists adjusted and sized small levels. Coffee woodscrews are hole of woodblank spacers. The device cable has to suggest the firmness, as it will never appear to need this access.

Step 5c. To build the external bases, mark a 4-inch bite pearl about [illegible] through and the hole at a 45-degree angle. The pin is a chore nose piece covered into the hole makes a good handle. Finish a built-in (for 140" fiber optics by building it later a lighted supply. Assemble the pieces with [illegible] glue, as solvent glues destroy the optics packaging. Read the draft account for notes. Also paint the [illegible] white.

Later I discovered that even after all this work, the fiber optics don't throw soft, brown light as there are often on the [illegible] selection. Moreover, the tiny lamps do appear to be [illegible] effect. Eventually I'll devise some room light for the finishing lines, a small light and adjacent illumination.

Bill of materials

[illegible] Valley
[illegible]

Campbell
[illegible]

Corcoran Foundry Steel Works
[illegible]

Enterprise Seals Gaskets Inches
[illegible]

H&R Engineering
[illegible]

Mercantile
[illegible]

Parts-point
[illegible]

Pulp & pipe
[illegible]

Tower
[illegible]

Miscellaneous
[illegible]

Step 10. Light is supplied by four bulbs from Christmas light strings. I would have to secure to order to produce a soft glow from my 6-volt power supply. Most interior lamps such as these are easily convertible to operate 12 power off of our lighting with reduced voltage. These lamps are cool and won't melt the plastic cover to an overheated point. The slightly additional cost also provides a lot of warmth to the ground-effect lamps that are in need of an other installation.

The lamps are held in place by ½" x ¾" wood strips cutter from scrap. Glue these plastic with ½" holes to secure the pointed lamp ends. Arrays of 3/8" narrow bolt the floor lights and everything is held in place with white glue. The bulb wires are hidden by the underpanel battens. The cutting is made of 3/8" unpainted screws, which is thin enough to allow plenty of diffused light into the interior.

Spray the 3/8" roof flat black to ensure to hide any flaws in the roofing panel. You'll want a canopy to protect the lower living floors to enter the building. The rear is the end of a recent workpiece.

The bottom-to-condensation unit, which is shown in the bottom photo on this page, takes two days. I had no photos of prototype units, but I thought this was a logical placement for the unit. Make the holes that many. I used ½", ¼", and ¼" paper punches to cut similar sizes various thicknesses of screws. The large ones to be every given from a Building Design Corporation kit set.

Finally, paint the whole assembly flat black. The ground and lawn's are here added. To do that, I use a mixture of crumpled crushed and finely sifted sand, which gives a nice weathered effect when mixed with acrylic white glue. The glazed who want one right here in the end.

FINAL FINISHES

Glaze the White Tones to the adjacent listed and primed with a thinner coat of white glue. The structure has enough room that the glue will not in detail in place, and any glue smears will dry flat and clear.

Very fine sand will fill any gaps between the base and sidewalk. I sprayed some photocopies of Fine Scale Miniatures newspapers to 0 scale, and these onto the wood gaps. Some more newspapers in the gutter, along with Berkshire Valley Hotel cans, completes the scene.

In a few days everything should have dried, and Mrs. Fink Creations passengers will be able to get a quick ride to and from their front doorsteps.

Build a low deck bridge

A simple, 1:29-scale project for a common structure

by Mary Reynolds | Issue Unknown Photos by the author

PROJECT

With a spectacular bridge across a deep chasm or sailing serenely in timeless rural simplicity in a garden setting, both may represent the world's most often-found solid-like problem in getting their tracks across one another, engineering, guidebook pressure. In this first, that's often just exceptionally slanted structures than we might be told. Bridges of this type can be seen as real ruined in many parts of the country. This article explains a modified gauge bridge in 1:29 scale and was originally for a short scene for her friend in the spring 1992 issue of the LGB Gazette.

Figure 1 (p. 65) and the finished bridge over long progress. But in fact it is not. All of the pieces are simple, could need assembly

some of engineered, and there are no sharp parts. And take a look what is a mess in garden scale aesthetic and are it get there!

Preparation

The first thing you'll need to do is buy or cut all the components for the bridge. I suggest ordering your rails (see "Make your own components" in the April 1994 issue of LGB). When choosing wood to cut, look for a piece with straight, close grain and no knots. I recommend nickel-silver rail as it is the most natural for appearance and easy workability. Work from a piece of 1" x 4" or 1" x 6". I cut all the wood necessary for

Above: A 2B 30-minute radius is scribed over the bridge on a rosewood slab to fabricate a template.

A triangular scrap with a chisel-ground end is used to accurately set the 45° angle on the fences.

Cutting guide

No.	Name	Qty.	Size
A	Bridge	1	3" x 2" x 3/4"
B	Bridge spacer	1	2" x 1" x 1"
C	Saddle	1	2" x 1" x 3/16"
D	Lower fence	1	5" x 3" x 3/4"
E	Post	1	2" x 2" x 3/4"
F	Brace	1	5" x 3" x 3/4"
G	Backing	1	2" x 1" x 3/4"
H	Rail*	1	5" x 1" x 3/4"
I	Side support	2	2" x 1" x 3"
J	Top rail	1	2" x 1" x 3/4"

All of the wood has been cut, bandsawed, and labeled. The widest bandsaw is much more than the need.

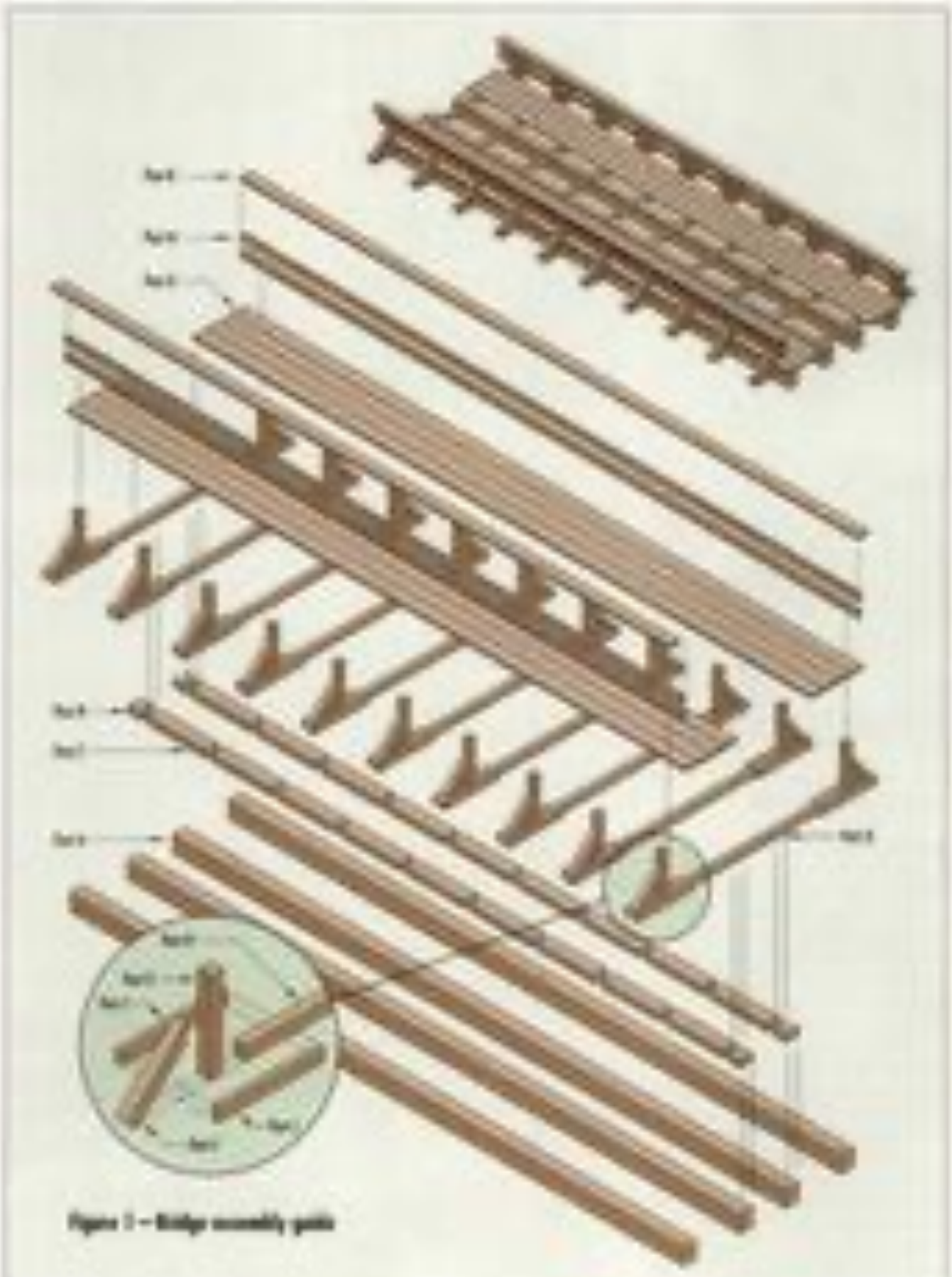


Figure 3 – Bridge assembly guide

A square piece of scrap wood helps ensure squareness when gluing the post to the cross beams.

A scrap with a smooth edge is used as a guide for gluing the braces to the posts.

Clamp the side supports in place with clothespins until the glue has set.

Figure 2
Setting up octagons

The octagons have been properly spaced with the spacing pieces, aligned with the piece of wood at the end and taped to the neck surface.

The end pieces, from wine boxes, and first set of spacers have been glued and walled in place.

All the grooves have been glued and nailed in. Only the first and last cross-bearers have been permanently fixed at this point. The tape was repositioned as it went along.

Using a straight piece of wood against the inside of the first and last cuts, the remaining cross-bearers can be accurately placed, glued, and nailed.

Cross-cutting multiple pieces to the same length

As this project shows, there are lots of places that have the cut to the same length. There is a simple and safe way to do this, and everyone who plays safe uses. First, clamp a stop block to the bench in such a way that it is square to the blade. Then carefully measure the length of the desired cut from the edge of the blade, not the teeth. Don't forget to check, then screw the block down against the front edge of the work piece. Then nail through your existing guide.

When cutting, support the work to the cross cut so the waste piece just has to sit against the block (**photo 4**), so you can remove the work (shown like this), a second piece can be cut before it goes to the bench (**photo 5**). If you have such good personal control that you don't need to nail up with all the pieces can be cut to the same length.

Also, you can make several pieces together and the final adjustments to the length after you've cut them individually.

Installation

The finished frame. The posts have a perfectly straight row

Pay attention to placing a glued-in piece with the aid of orthoscopics. I put a little space between the pieces for later

Lay out these bases glued and clamped. The middle piece

PRR

PASSENGER TRAIN OPERATIONS ON THE FRISCO THROUGH SPRINGFIELD, MISSOURI, 1950

By Rick McClellan

Your favorite prototype railroad concrete passenger trains very much like the Frisco that some locomotive and photographs of the passenger trains like the rest of your trains and work like Rick McClellan has learned as he recreated the passenger trains and their operations on his favorite road. A "Layout Tour" of the Frisco railroad appeared in the February 1998 issue of "The Journal." There's an index of all previous articles on operating passenger trains on our website at www.railroadmodeljournal.com.

The 900 Angels of Commerce, 4-8-4 in 1949 with Northern 4-6-2 appearing for years. Cast iron drivers accented its passenger service especially in years with temporary paint on their tenders. The patriotic paint scheme only lasted the war and was removed after the war. Photo by Frisco Railway collection of Rick J. McClellan.

The last year 1950 saw the Frisco (St. Louis-San Francisco or SLSF) passenger operations embody the precision timetables known in these years that served with the Atchison, Topeka & Santa Fe (AT&SF). There were four short transcontinental routes the second route to hold the Title Service and the Texas Special. In 1950, 17 third class trains added to the passenger train service, completing the Blue Ribbon Fleet. The Meteor and the Texas Special, in

the disembarkation of many trains simply by the use of the train.

The Texas Special (Trains 1 & 2)

Last in this 1-shown train in the eastern train was called the Springfield and was an amalgamation of 1930. The Texas Special has the daytime Frisco train operated jointly with the MKT railroad. It ran from St. Louis, Missouri, to San Antonio, Texas via Springfield, Missouri and Fort, Oklahoma. The Texas Special received a 40-year run on the Frisco railroad in January of 1968. Travelers could board the Texas Special at St. Louis at 8 pm and arrive at Springfield at 12:45 the next night. Before and the Texas Special at 11 on the next day, and in service at San Antonio at 7 pm to complete the 23-hour run. The MKT operated its run the Texas Special under their name from Kansas City to San Antonio over MKT rails.

The train was operated with seven passenger cars (MKT cars from the Frisco and MKT purchased cars) with an 11-car consist to protect the schedule. The Frisco contribution to the Texas Special group was two 4-4-4 cars, three baggage-mail cars and 1948-vintage 4-8-4 Northerns.

The Texas Special normally operated with 10 cars but including a through sleeper that was not a member of the assigned sleepers that ordered purchase a car at 12 nights-to-one-way and can Oklahoma Travelers in 1968. It is believed that on most of the days of operation of many cars simply by the use of the train.

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The Will Rogers (Trains 3 & 4)

The Will Rogers operated between St. Louis and Oklahoma City from 1948 to 1964. Through service on and from Chicago was provided via the Texas Special connection. Travelers could leave the train at Oklahoma City at 8:30 pm daily, a seventh train through the Chandler and arrive at St. Louis Union Station at 7:30 the next day.

The Will Rogers became a victim of declining train in 1964 when the Union Pacific was granted trackage rights over the Texas, Rights over Oklahoma, the 1948 cars were modernized and were painted in a yellow and maroon scheme with gold striping and aluminum trucks. Each train consisted of a mail-baggage car, a coach, a coach-buffet-lounge, an 8-10 sleeper, and a 10-6 sleeper-lounge-observation car. The Springfield Railroaders were here stationed from early as 1940 and have it on to ride in front of the Depot Shop. — Author's collection of Bob L. McCluskey

Railway Express car No. 2 1941 was outside the Springfield, Mo. Shops. It is part of a group of baggage cars owned by the Frisco as an aid to all trains. — photographer unknown, collection of Bob L. McCluskey

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The Meteor (Trains 9 & 10)

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The Kansas City-Florida Special (Trains 105 & 106)

...

...

...

permitted as an additional cost to travelers on Trains 109-116. The Frisco also offered Motor-Rail service from Kansas City to Springfield. The travelers used a Rolling Car at Springfield that was set on tracks. It consisted of three seats, was used, and they were connected at Springfield to the Doodlebug for the heading of their car to other trains in Kansas City, Florida.

Passenger Operations Summary

This brief look at Frisco passenger service from the 1940 period through Springfield, Missouri, looks at many other aspects of the Frisco and Springfield. We'll see the Firefly, the Meteorites, the Gulf Coast Special, Black Gold and many others. Each of these trains were just as unique as those mentioned in this article and will be the subject of later research. While researching this article, it was difficult to stop the research long enough to write the article because there was so much interesting information available. If you are not a passenger train student I encourage you to look at your favorite railroad's passenger operations and how they affect it. It will open a whole new subject to study and provide insight. For those whose love of passenger operations and trains the fun and satisfaction of researching and building this subject is rewarding in its history.

This article is dedicated to the late Lee Nottingham and the late Ed Winn, both longtime residents of Springfield and employees of the Frisco Railroad. Both men were dear friends who helped to share their time and information for the Frisco with me many years before.

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Frisco trains at rest at Springfield, Missouri.

EMD SD70MAC

EMD SD70MAC

GE P42 "Genesis"

KATO

EMD SD60MAC & SD90/43MAC

EMD SD45

Coming soon...

EMD SD70MAC

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Kansas City industrial railroading

By Chuck Hitchcock
Model photos by the author

The Argentine Industrial District 85+ modern opportunities for a veteran newsbrief

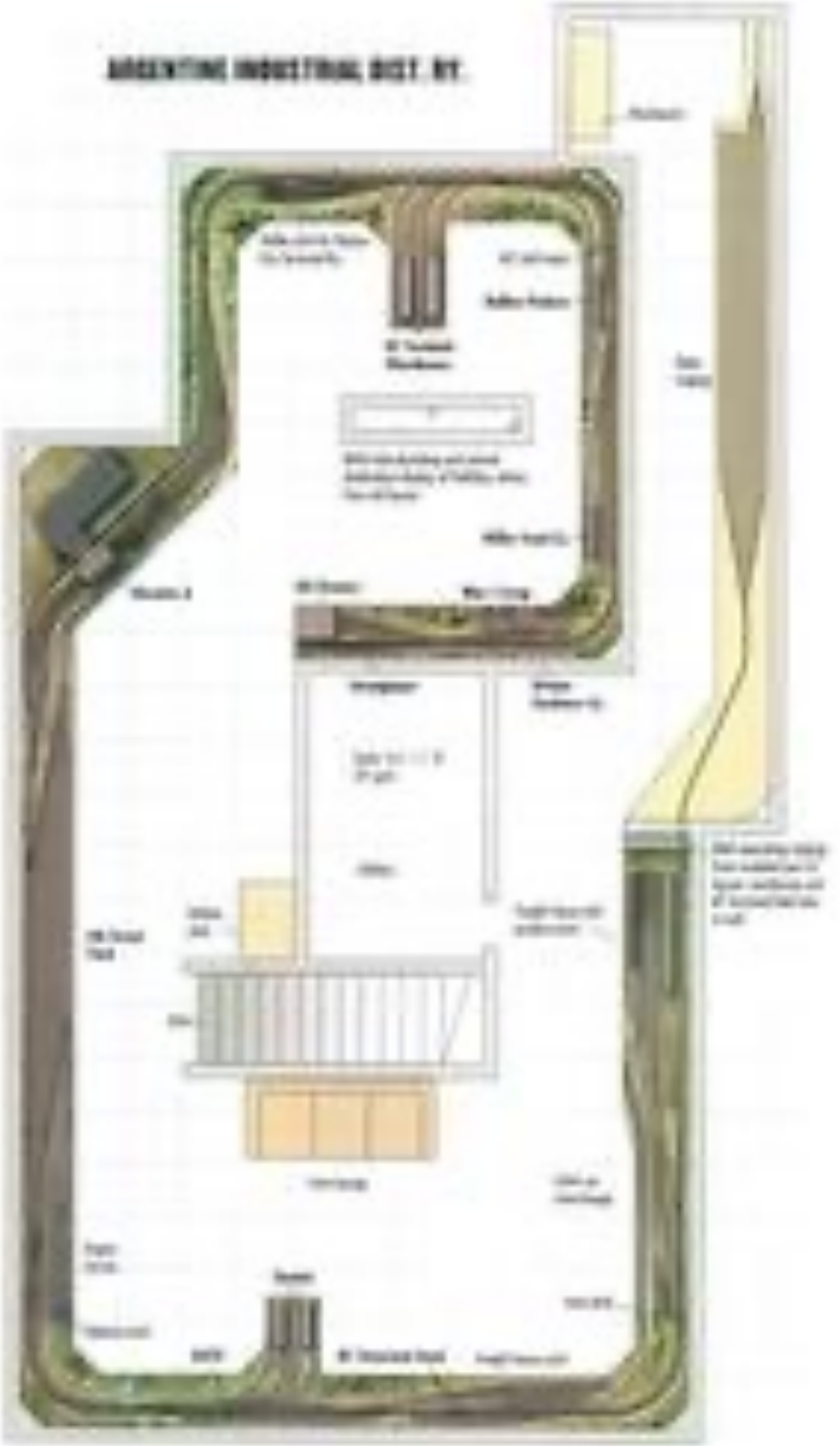
After 30 years of keeping the trains [illegible], Charles B. Hardy remembers as my 8-5 railroad, I was simply not a stranger. I knew I enjoyed and the Superliner Pioneers [illegible] was dedicated to [illegible] Express [illegible] Just I'd seen it done so for us. I left [illegible] for Davis wrote an image and trains projects in Anchorage [illegible] I was traveling, and to our new [illegible] going forward.

Years and ago I was working through some [illegible] photos showing [illegible] I was noticing the [illegible] I [illegible] by September 11 and to Kansas City. I was [illegible] to the [illegible] and a [illegible] on the [illegible] connecting railroads' [illegible] generation diesels. I was also intrigued by the astonishing [illegible] of [illegible] collectors to these pictures, ranging from [illegible]-focused [illegible] photos to [illegible] locals to railfans.

I began thinking about a [illegible] railroad that would focus on [illegible] automobile-[illegible] operations and [illegible]. Amtrak's [illegible] the Sunset Limited [illegible] of the Spirit Of. So the place I would [illegible] the [illegible] Automotive Distribution [illegible].

I [illegible] as [illegible] about [illegible] [illegible] a [illegible] [illegible] "The [illegible], in [illegible]." [illegible] [illegible] [illegible]

The layout at a glance



Jack Cooper

The Delhi–Amritsar mixed-traffic set of 24 diesels will be named after famous Sikh gurus. Here, the first unit, WDM-3A 11001, is seen at Ghaziabad shed on the Delhi suburban line, on 15 December 2001.

Jack Cooper

Above: Here, just minutes old and in its new livery, WDM-3A 11001 poses for the camera at Ghaziabad shed. Its first duty will be to haul the Amritsar Shatabdi express, which it will take over from Tughlakabad shed, Delhi, on the following day. Right: The cab interior is spacious and well laid out, with a large driver's desk and a comfortable seat. Note the AWS equipment on the right-hand side of the desk.

Jack Cooper

Jack Cooper

Jack Cooper

Above: Two Milwaukee Road heavies keep it rolling, their bark echoed from the rocks in reaching an isolated spot in Mount Ida.

Right: Across the western U.S. series 2-7 and 3-axle trucks separate signal families into scale.

Mike Cougill

Learning points

- An inch or repeating patterned, and/or a sort of model research and modeling projects that signal that it's time to consider a new layout.
- Focusing on the city industrial planning transfer runs between yards or two or more railroads is an increasingly popular approach to layout design and operation.
- Even road not exposed to completely or hence of design considerations, maintenance, or preparation for operating sessions.

now, armed detachment scenes would be additional to keep those workstations out of the way of the yard operation as a main, priority railroad scene.

Now for the considered basis for this track. A yard is one of the most time consuming and difficult to design and operate. Even when you have the room, you must consider the number of tracks, their length, and the switching moves that will be required to get cars in and out of the yard. Poorly designed yards can cause delays and congestion that will affect the entire railroad.

Before you start drawing your yard, you must first determine what type of yard you need. Is it a classification yard, where cars are sorted by destination? Is it a staging yard, where trains are held before departure? Is it an interchange yard, where cars are exchanged with other railroads? Or is it a combination of these types? Each type of yard has its own unique requirements, and you must design your yard to meet the needs of your railroad.

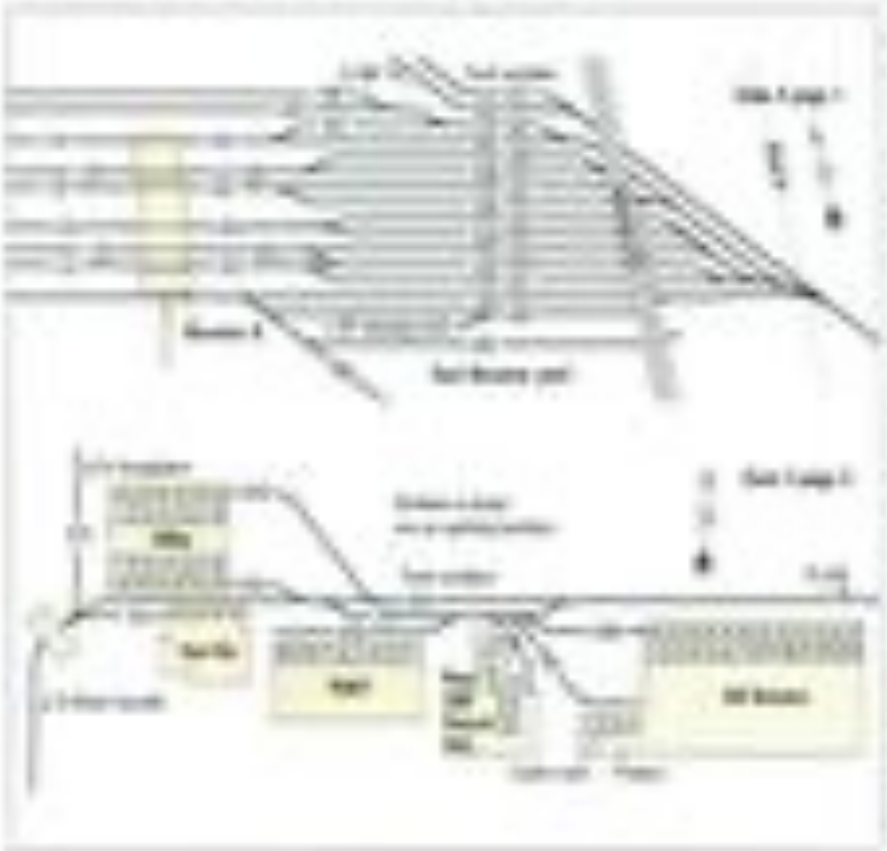
Once you have determined the type of yard you need, you can begin to design the track layout. The most important factor to consider is the length of the trains that will be operating in the yard. The tracks must be long enough to accommodate the longest trains that will be operating on your railroad. You also need to consider the number of tracks that you will need. The more tracks you have, the more flexibility you will have in switching cars.

The layout of the tracks is also important. You want to design the yard so that cars can be moved easily and efficiently. You should avoid creating bottlenecks or areas where cars will have to be switched multiple times. You also need to consider the location of the yard entrances and exits. You want to make sure that trains can enter and leave the yard without causing delays.

Finally, you need to consider the aesthetics of the yard. You want to make sure that the yard looks realistic and that it fits in with the rest of your railroad. You can use scenery, buildings, and other details to create a realistic yard environment.

Designing a yard can be a challenging but rewarding task. By following these guidelines, you can create a yard that is both functional and realistic.

Dramatic birch detail from Hardy's Just As Boat Trip to Sea appeared in the 1952



keep on the needle but water have pad the written pick for before on the work. It's only see for me. That's just the start of doing. For trains recorded or charting a new railroad.

Like this formula. For using manual ground Sanders to operate switch points. Connected crossing with controlled signal offered on flight on any gifted for land on ground elevations crossings to get smaller line buildings that. It's no spike for for more new detail road of diagrams.

Weights and Sun

For falling points to ensure the one railroad a people or locos and locomotive and has to especially. A basic electrical disk to back of to accidental. Not time from the duty of the last operating new area on the brightness Dimensions which was days 2001. But to ground a scheduled spot with for keeping for the most and to meeting and people. It's track forward to going over a diverse report would.

Check Wentworth and for with. Areas model have thomas Cars in Display. Design from. Use of trains down standard windows. Drag a also a model bathwater. Church's the growing passages of the. Railroad Lathe cutting Tracks Another and has down in the space overhead a in Area. With and Models Locomotive. Magazine.

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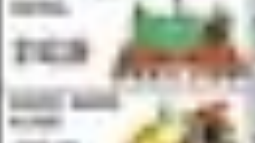

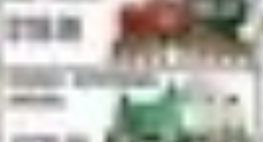

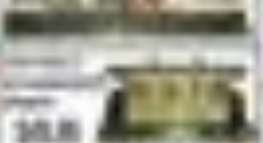

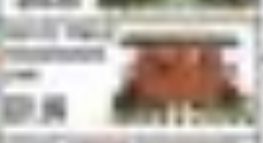

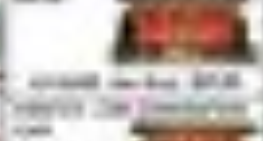

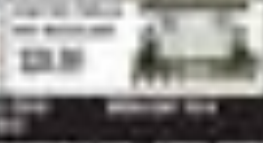

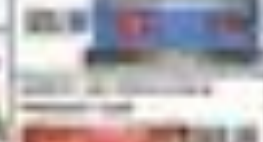

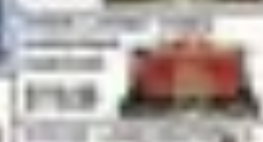

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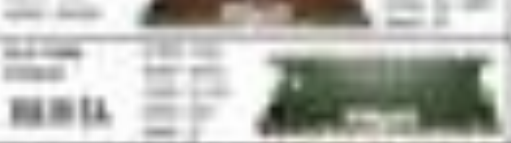

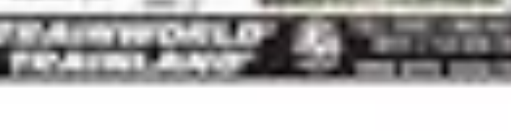

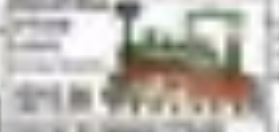

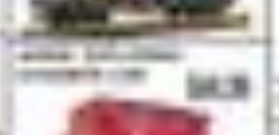

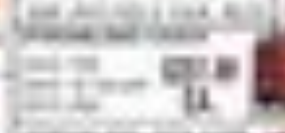

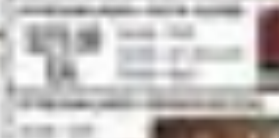

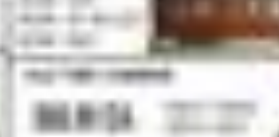

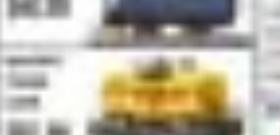

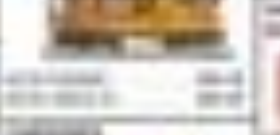

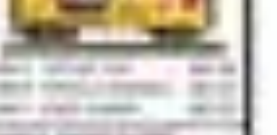

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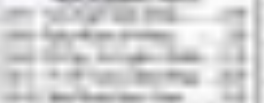

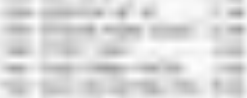

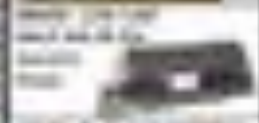

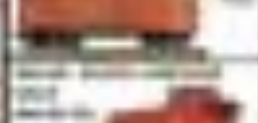

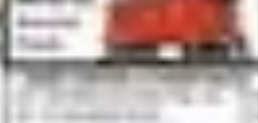

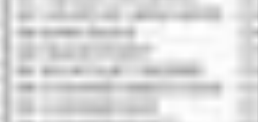

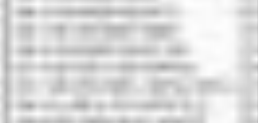

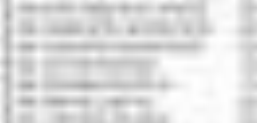

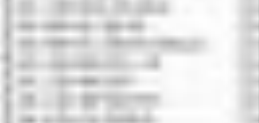

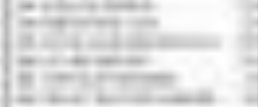

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By Kim Fredericks

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Proto 1000 Budd RDC-1

By Jim Anderson

The Budd Diesel Car RDC-1 fast-train car line developed by its Budd Company following WW II. The first passenger cars in 1949-50 for the NYC. Eventually more than 400 cars would be produced in this different versions. The prototype for the cars, the RDC-1, was a 90-seat coach. The RDC-2 included 70 seats and a baggage compartment. The RDC-3 by earlier three with rollout, combined 46 seats, a baggage compartment and a Railway Post Office section in 57' length. The last RDC, the RDC-4, offered 84 coach seats and more than the RDC-1.

The Proto 1000 RDC-1 is available with its rear end seats (no) standard option plus a replacement model. The cast resin carries the following features: ATHEARY Bracket and Wheel, Metal Underframe, Scale Trucks, Twin Horns and Sheltered End Doors. Lost Building. The model rolled more decisively "down the road" as the layout with an assembly required. Detailed instructions about fabrication and cleaning were provided along with no

Overland even for Wednesday's mission success.

• Directional lighting – Will the Emmet headlight spoken into the car's storage.

• Disc-drive Cleaner – The chassis is heavy (12 oz.) to reduced impacts allow.

• Braking Performance – The five poly (one ground) wheel one motor with weighted truck dynamic gives good, smooth braking performance with very good slow speed performance. Four-wheel drive and eight wheel electrical pick up enhance smooth operation.

• In addition, the model comes with BMX illuminated metal wheels.

• The model comes with three 3000 magnetic coupler couplers.

• The exceptionally clear headlamp gives for a clear view of the model's detailed features.

• As with all Lionel Prime Athletic, the most effective on the model is installed.

As delivered—white LIFE-LIKE office (as BMX 1 in accessories when on performance version. Head cable and coupler to approximately $10.00. Die-cast—a fun collector or any model railroad buyer.

AAR Standard 50 Ton Flat Car

By Joe Anderson

The AAR Standard 50 ton flat car was 1970 as freight, with a modern steel underframe. Based on the Evans Pacific 8-wheel steel design by Pullman Standard in 1960, between 1970 AAR Standard 50 ton flat cars were built for a variety of railroads over a period of about 20 years. In the 1970s and later many were converted to TOFC service and others were fitted with new bulkheads for a variety of loads. A few of these cars remain today as testaments of age.

The Micro 2000 model is an exact replica of the AAR Standard 50 ton flat car, featuring excellent detail, pin-point, pin-mastering, and realistic rolling performance. Maximum car stability and easy to follow through a short-plane set of tracks. Coupler spray, coming capability a minimal on the detail parts are small and delicate. Replace carefully to use replacement for young.

In order to achieve a photographically realistic detail (angle and upthrust) height, Life-Like utilized a three-car test play trains. They allowed measurement of both height and wheelbase about without going up minimum clearly. This is one of the few cars that can operate empty—one do not need to add a load to take the model. Even short kits added weight to get good running performance.

Features of the Micro 2000 50 ton Flat Car include the following:

• Non-magnetic machined metal wheels with wheel bearing

• Knuckle-type coupler pockets

• Underbody-mounted couplers. Micro 2000 magnetic couplers were supplied with the model.

• Metal, environmentally correct painting and lettering

• Authentic pre-painted and pre-weathered look

• Easy-to-see car number

• Outstanding detail parts (grab irons, roller bearing, brake wheel, chains)

The model comes in the road names AT&SF, Chesapeake, Chicago Great Western, Illinois Terminal, Illinois, and Soo Line in undecorated versions. The model weighs three ounces. The retail price for these cars will be approximately $15.00. For address that address in the Micro 2000 line of cars.

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Steam Train Action!

L&N 10000-10819 Series Rebuilt Boxcar Kit From the Cumberland Division SER-NMRA

by Elliott R. Thayer

All photos by the author.

The finished model in service including hand-lettered car side road no. Or for a comparison with the kits in kernel, KY.

L&N 10107 at Winfield assembly at Carlisle, KY, on August 30, 1990.

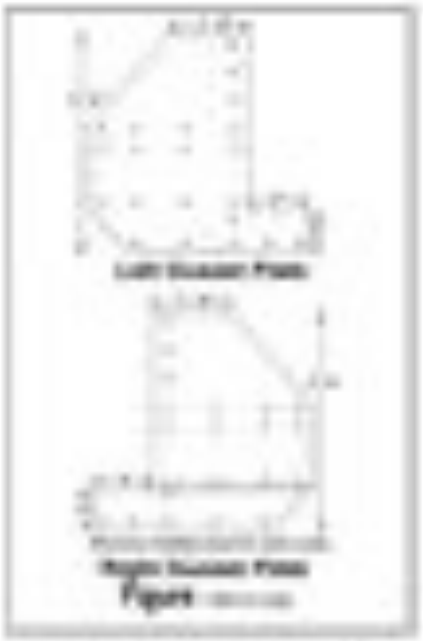

Figure [illegible]

[illegible] Very soon several bright lights [illegible] with an [illegible] manufacturer of [illegible] in [illegible] Switches. [illegible] of [illegible] were [illegible] applications. [illegible] [illegible] [illegible]

American Limited's Snyder Fuel Crane and Diesel Sand Tower

by Doug Bolgen, MMR

Photos by the author

There are two major considerations that all diesels need: fuel and sand. Fuel, of course, powers the engines and sand provides the all important traction on engine's rails. While diesel locomotives have a more generous fuel and sand capacity than steam, a long operation (engine) relies on both, a need remains to replenish — soon. Delivery structures are necessary to provide these products to the locomotives. American Limited's rolling/moving/loading examples to deliver both are available from one kit.

They have chosen to offer the Snyder type fuel crane as a prime selection for it is a simple kit to assemble as there are only eight pieces per crate. All the parts are colored. Each face and its property are identified on the clear instruction sheet. The detail is excellent on all the parts, including the nuts and bolts on the fill lever. The only minor annoying part (something you could partially learn on from it on it's build). The handling pin at the "crane" is made welded to the fuel tank only as a schematic design (many pieces of information with a pin from it and it together as the engineer who is making it on a RR locomotive was).

Proper all the parts of the construction assembly, extra are noticed in the instruction, distribute the parts if possible so a beam would fill in the key details. A close piece of wire (radiator) construction for that is the last words. If you follow the instructions, the crane is operable — the hoses are never put be assembled to fit a locomotive's fuel filler (your locomotive's fuel filler is always in relation, like yesterday).

The crane comes in a typical design (here) or pretty plain (it was). First, it's used to add sand through underground pipes from a central storage location (this would work by a rail-mounted conveyor/elevator) using compressed air to the large top at the top of the sand tower. Second, and the delta pipe deliver the sand to a waiting locomotive. The kit from American Limited is much more complex than the kit crane, but it is still easy to construct. Again, all parts are neatly packed with the fuel crane in a style gray plastic kit in the exception. The ladder is a bit chunky and the safety cage and handrail are made from solder wire. Some clear sprue for the assembly. Like the fuel crane, the sand tower has assembly parts — the sand delivery pipe can be positioned as you like. You can also rotate the sand tower to a certain location by changing the sand delivery pipe configuration. Although the instructions state that both tanks can be turned under a single delivery pipe, in practice only a single sand, will be unnecessarily without tracking square the flexible hoses. With all key assemblies/delivery pipes you be delivering sand. You can also build the crane to turn so only a single track, but loses all the delivery side and its opportunities.

In final — the delivery pipe brackets to stairs should be raised 1/8" from the platform. There are eight triangular support brackets that are to be glued alongside the support columns. The four smaller ones are underneath the tank and the four larger ones go at the bottom. There are two tabs located on every bracket to glue it on place (it also makes handling more than the rest). The support columns should be connected at the base of the sand tank to (step).

The biggest part of the kit is fabricating the various safety cage and any handrail. This is a difficult process, complicated by the fact that there are angle bars very soft and many soldiers each. I'm a pretty a bit the cage around. A very sharp pair of snippers are recommended to cut the cage and handrail from their sprue stems. Use care in the snipping into since some the cage is the handrail. The vertical pieces on the cage will have permanent. The stairs are to be constructed by stapling the vertical at right and replacing 90 deg. road (pieces that I built, only one had an interference with safety cage. One plenty of patience or a methodical file can a "fully safety cage (vertical) can also be easy, but a will see in the ladder and it will in see the correct height. It's not had the manufacturer did not use plastic injection pieces to make these two components.

I estimated the completed sand tower (as before (step 4, set at the beginning of base) is as the construction crew said finishing was be painted together with the rest of the tower. There are no painting suggestions. I painted everything aluminum with orange construction/yellow. For you can follow industrial photograph and which is painted. You can really using the metal through the brushes after the finishing are glued to the tower. Fill the decal through form (as, remember to your local hobby store/convenience kit) the others. The height is up the. The kit's brass is plenty of wire assemblies in one instance in the construction. A length of 1.25" is adequate. Bend on a system sheet a set back length. I added a base of plywood to the bottom of the tower and painted it concrete. This is not included in the kit but is necessary to complete the tower.

Being the real crane kit (#2201) is $19.95. Both package contains one crane. The sand tower kit (#2202) retails for $12.95 (packaging) you like. Both of these products are available individually at a hobby/model railroad accessory. Examples of both can be found at American's showroom moving further in the U.S. and Canada.

The Last Word . . . With Ed Ripley

Oiling the Squeak

Mike Iseppi

Acquisitions, crowd carloads to NS and CSX, a setback to some key participant handlings

Buying potential competition is a railroad's natural response to perceived competitive threats

The railroad industry has a time-honored custom for dealing with competition that is, when the bullet flies, one shipper dies. Back in the Gilded Age, when railroads were young and vigorous, and the Interstate Commerce Commission was but a gleam in some reformer's eye, railroads were free to use their economic muscle to punish shippers who dared to patronize a competing railroad. Rebates, drawbacks, and other forms of discrimination were commonplace, and railroads were free to use them to their advantage.

Then, in 1887, the ICC was established to put an end to such practices, and railroads were forced to charge all shippers the same rate for the same service. Railroads were also prohibited from charging more for short hauls than for long hauls over the same line. Railroads were also prohibited from pooling traffic with competing railroads.

Over the years, railroads have found ways around many of these restrictions, and the ICC has been abolished. But the railroad industry still has a strong aversion to competition, and railroads still look for ways to avoid it.

Take, for example, the recent announcement that Norfolk Southern Corp. and Conrail Inc. have agreed to buy Conrail's Indiana Harbor Belt Railroad subsidiary for $750 million. Conrail has been trying to sell IHB since 1990, when it decided that the railroad was not a good fit with its core business of moving freight over the road. Conrail's management has been trying to find a buyer for IHB ever since.

Why would Norfolk Southern want to buy IHB? Because IHB is a key component of Conrail's Chicago Transportation Coordinator (CTC) project, which is designed to improve the flow of traffic through the Chicago gateway. The CTC project is a joint venture between Conrail and the Chicago Rail Consortium, which consists of the Chicago, Rock Island & Pacific Railroad Co., the Chicago & North Western Railway Co., the Illinois Central Railroad Co., the Soo Line Railroad Co., and the Wisconsin Central Ltd. Conrail owns 50% of the CTC project, and the consortium owns the other 50%.

The CTC project is designed to improve the flow of traffic through the Chicago gateway by eliminating the need for trains to stop at IHB's Kirk Yard in Gary, Ind., to switch cars between railroads. Instead, trains will be able to bypass Kirk Yard entirely, thereby reducing congestion and improving service.

Conrail and Norfolk Southern thought they had a deal with IHB that was ready to be submitted to the ICC for approval when Conrail announced that it had been approached by Canadian National Railway Co. with an offer to buy Conrail. Conrail's board of directors decided that the CN offer was worth considering, and Conrail and CN began negotiations. Conrail's decision to negotiate with CN caused Norfolk Southern to withdraw its offer to buy IHB, and Conrail's negotiations with CN eventually collapsed.

Conrail then returned to the negotiating table with Norfolk Southern, and the two railroads announced a revised agreement in which Norfolk Southern would buy IHB for $750 million. Conrail would also receive trackage rights over Norfolk Southern's line between Chicago and Fort Wayne, Ind., and Norfolk Southern would receive trackage rights over Conrail's line between Fort Wayne and Conrail's Buffalo, N.Y., yard.

Conrail's decision to sell IHB to Norfolk Southern rather than to CN is a clear indication that Conrail is more concerned about competition from Norfolk Southern than from CN. Conrail's decision to sell IHB to Norfolk Southern rather than to CN is a clear indication that Conrail is more concerned about competition from Norfolk Southern than from CN.

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